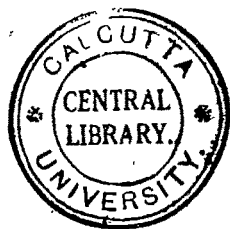


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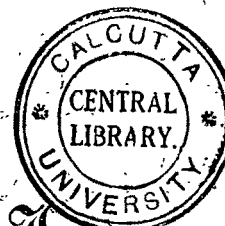
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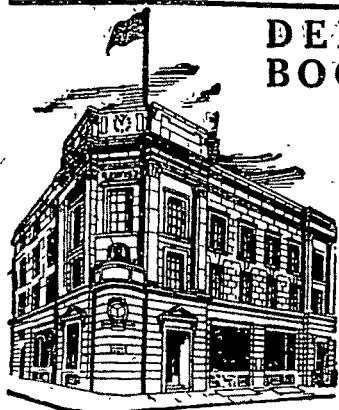
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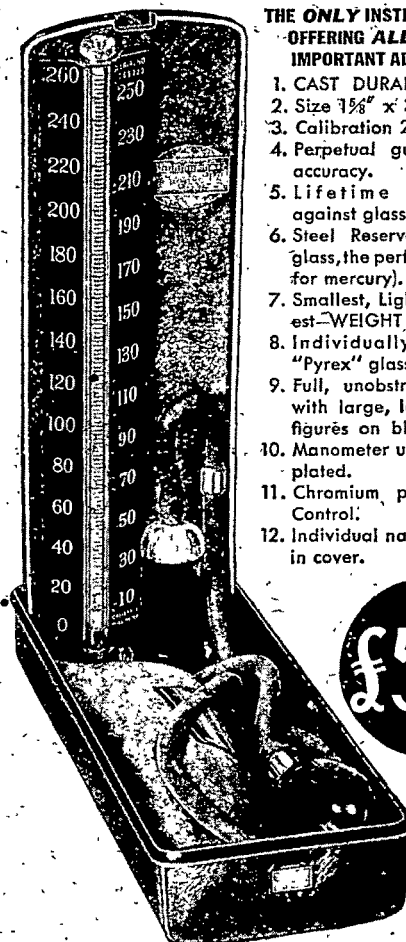
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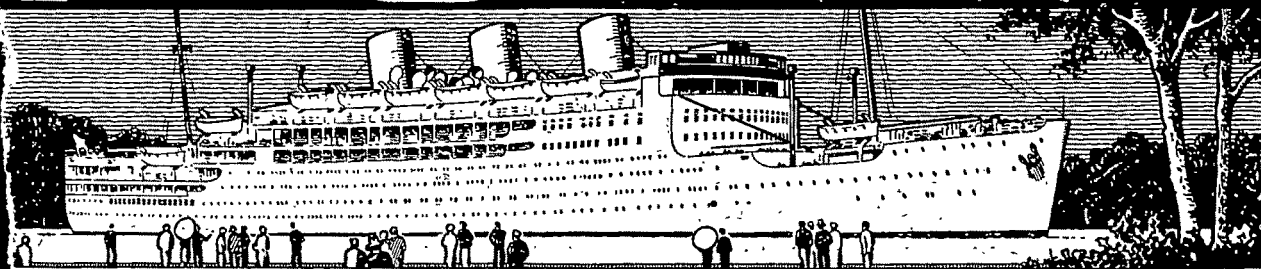


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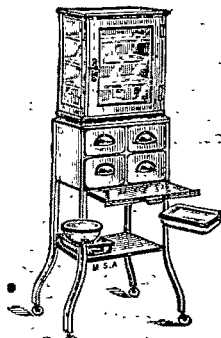
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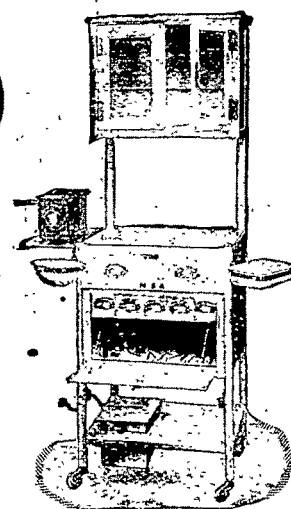
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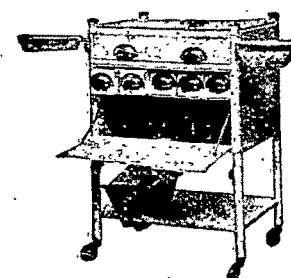
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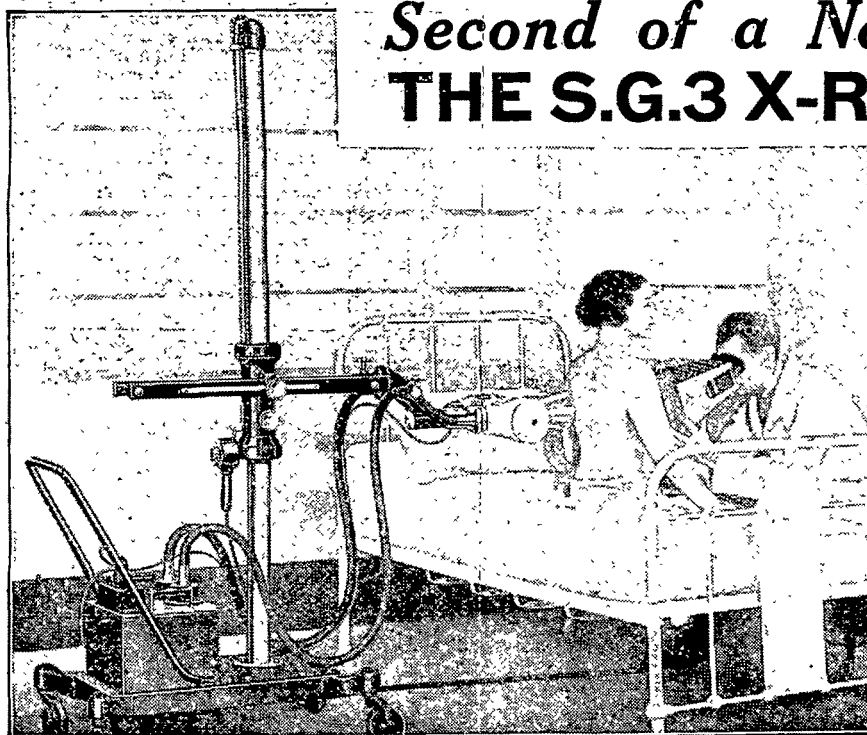


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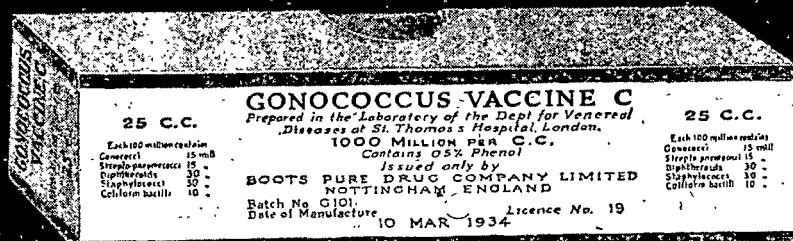
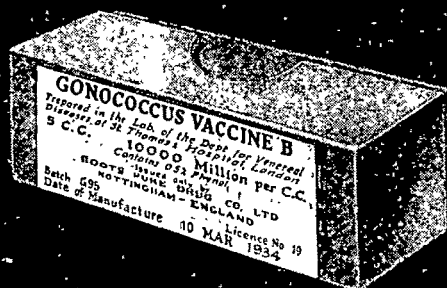
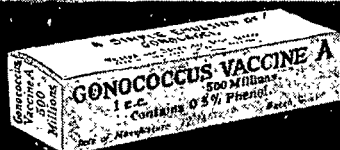
"On the Nutritive Value of Bread."

—Lancet, 1927, ii, p. 1090.

"The Effect of Bread in Constipation."

—Practitioner, 1930, Vol. 124, p. 691.

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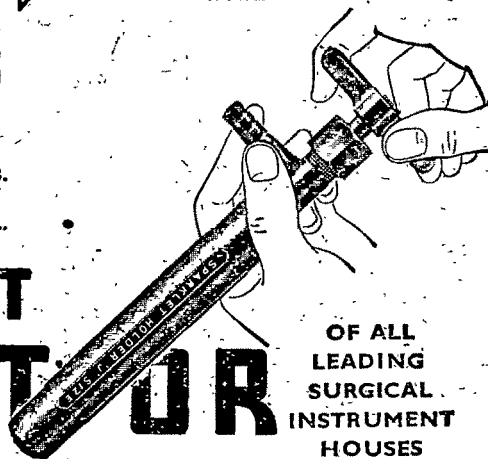
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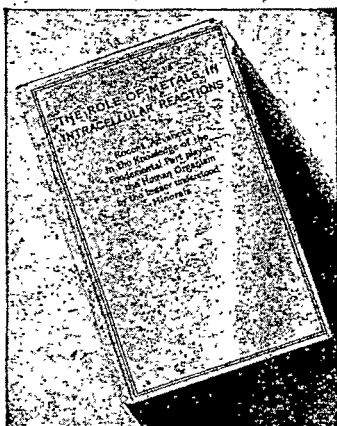


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B.M.J., 1933, i, 1091.

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Pract. 1933, cxxxi, 410.

- **DEFECTIVE IRON ABSORPTION**

Med. Press Circ., 1933, cxxvii, 519.

- **DIETARY DEFICIENCY**

B.M.J., 1933, i, 685.

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Lancet, 1934, cxxvii, 593.

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The triplets born on July 20th to Mrs. Doggett, of Eaton Avenue, Bletchley, weighed 4 lbs., 3½ lbs. and 3 lbs. respectively.

Mrs. Doggett writes (September 2nd):—"The two smaller babies were immediately put on Secway with wonderful results. The Doctor says he is very pleased with their progress, as he says they are six weeks premature and only start off as normal from this week. I am now supplementing the breast with Humanised Trufood for the heaviest one."

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1 week	4 " 4 "	3 " 8 "	3 " 0 "
2 weeks	4 " 8 "	3 " 10 "	3 " 2 "
3 "	4 " 12 "	3 " 12 "	3 " 2 "
4 "	4 " 15 "	3 " 15 "	3 " 5 "
5 "	5 " 1 "	4 " 1 "	3 " 6 "
6 "	5 " 10 "	4 " 3 "	3 " 6 "

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Safe Salicylate Therapy

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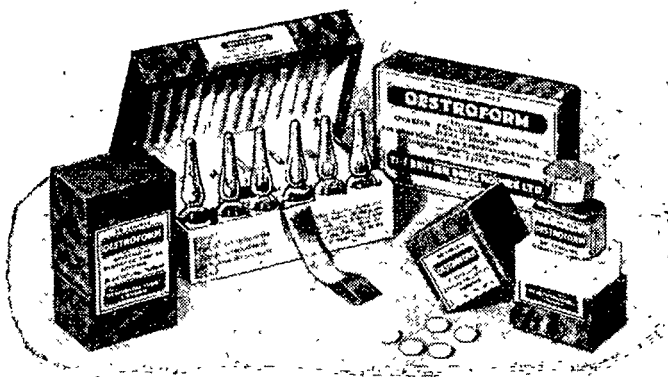
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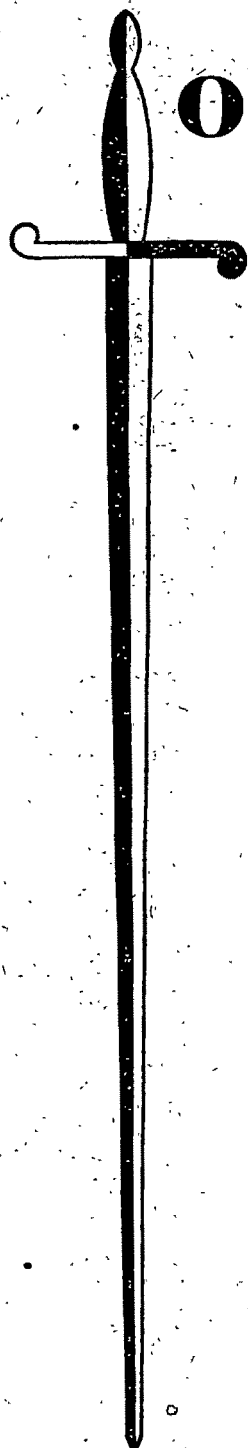
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A dessertspoon-
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'Petrolagar'

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Owing to its harmlessness to body tissues, which permits of its use at effective strengths, 'Dettol' possesses a marked superiority over Carbolic and Cresylic disinfectants. Because of its non-poisonous, non-corrosive nature, its cleanliness and agreeable odour, it provides a suitable antiseptic for home treatment.

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'DETTOL' has a Rideal-Walker Co-efficient of 3, that is:—it is three times as effective a germicide as pure Carbolic Acid on broth cultures of B. Typhosus, or half as strong again as the standard solution of Cresols with soap.

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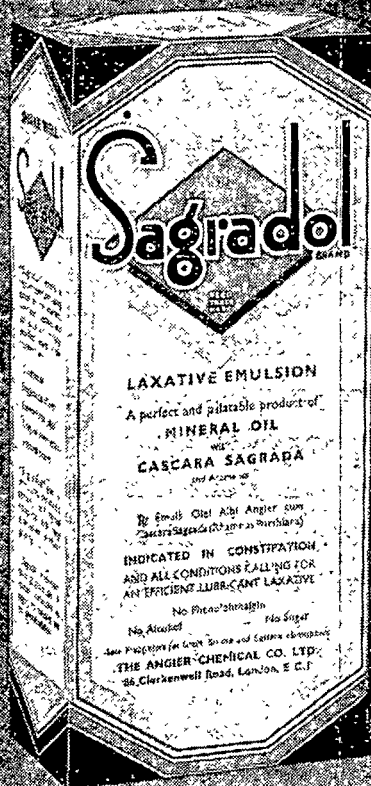
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FROM THE HOUSE OF ANGIER

A DISTINCT
ADVANCE IN
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CONSTIPATION



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LAXATIVE EMULSION

Among the Few Safe Remedies for Constipation are :—

MINERAL OIL—which increases bulk and softens the faeces.

CASCARA SAGRADA—one of the anthraquinones (tonic laxatives) which essentially stimulates peristalsis without forming a cathartic habit.

“SAGRADOL” is a combination of Mineral Oil and Cascara Sagrada in the form of a fine emulsion very pleasing to the taste.

It relieves constipation in a safe and effective manner.

“Sagradol,” because of its mineral oil content, moistens and softens the bowel mass, making movement easier and allaying irritation of the colon, rectum, or anus.

Its cascara content promotes peristalsis and furnishes non-habit-forming activation.

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No damaging side effects will result from the use of “Sagradol” (such as those produced by phenolphthalein, harsh cathartics, or harmful drugs).

“Sagradol” is particularly indicated in the constipation of pregnancy.

Sizes : 7 and 15 fluid ounces.

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Announcement

THE 17th annual issue of the Genatosan Vaccine Bulletin has recently been posted to all medical men whose names appear on the Register. A copy of this publication will be forwarded, free of charge, to any Practitioner who has not received one owing to change of address or other reasons.

THIS brochure contains a review of the latest researches on Influenza and Colds, together with a summary of the respective merits of Detoxicated and Toxic Vaccines.

DURING the past year we have received many reports from Practitioners using our Vaccines for prophylaxis and treatment of Influenza and "colds." The consensus of opinion indicates that these vaccines have proved of great value. Although Influenza and certain types of Colds may be initiated by a filter-passing virus, yet in these cases the vaccine proves definitely beneficial by preventing serious sequelæ such as pneumonia, pleurisy and middle ear disease.

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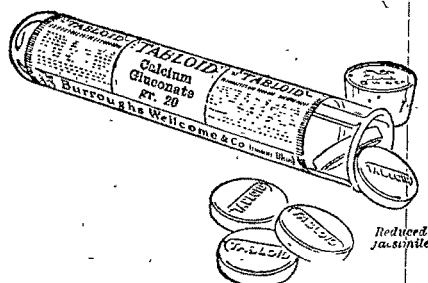
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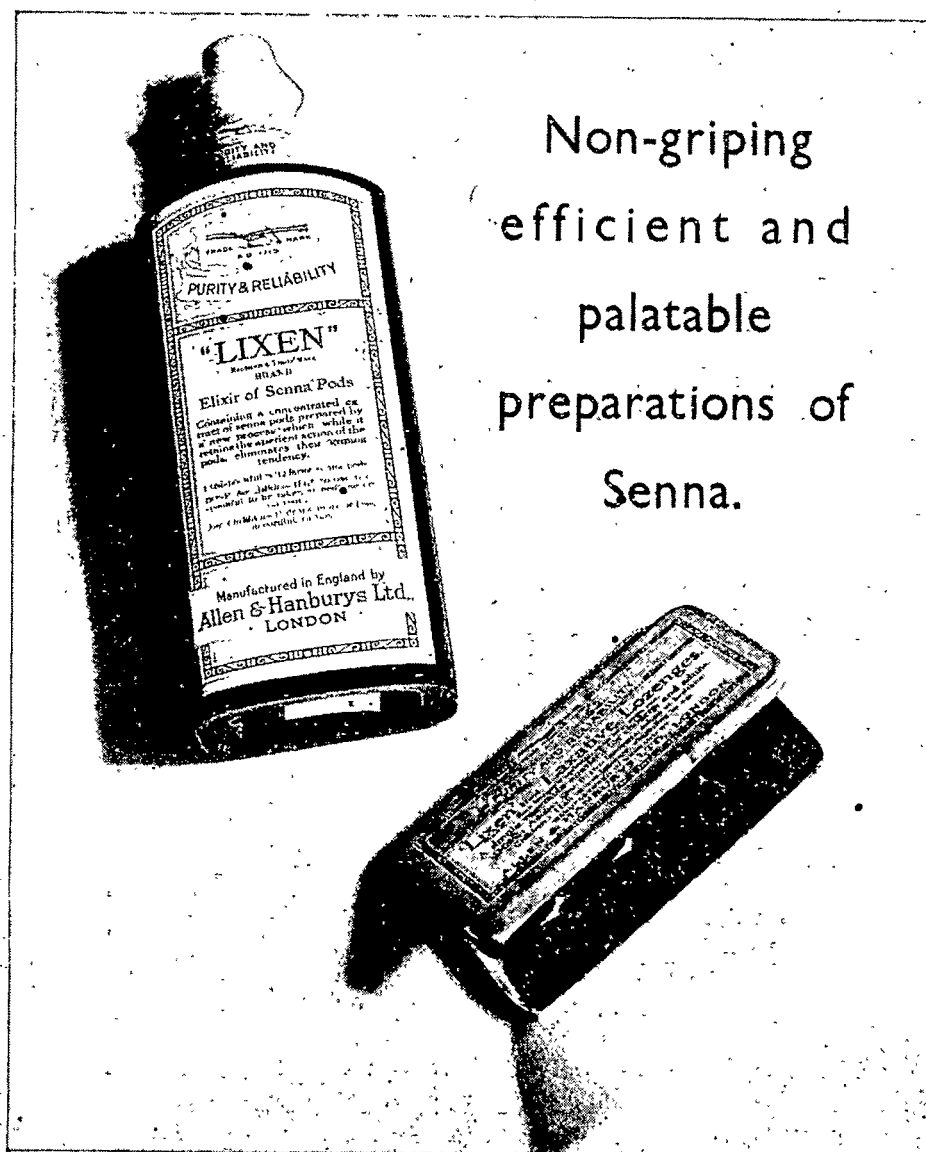
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BRITISH MEDICAL JOURNAL

LONDON: SATURDAY, OCTOBER 6th, 1934

USE OF NARCOTICS IN THE TREATMENT OF NERVOUS AND MENTAL PATIENTS *

BY

LORD HORDER, K.C.V.O., M.D., F.R.C.P.

PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL

When I was asked to open this discussion before the combined Section of Neurology and Psychological Medicine I protested that I was neither a neurologist nor a psychiatrist. It was thought, however, that some observations by a general physician might prove a good jumping-off ground for the experience of those engaged in these two special branches of medicine. I concurred in this, but I will frankly admit that my acceptance of the invitation was influenced quite as much by my desire to pay homage to the dayen of psychological medicine, whose personal request had so honoured me, as by any other consideration. I shall assume the privilege of opener to present the subject from rather a wide outlook, because my own work leads me inevitably to take such a view, and although the essence of the discussion will turn upon the use of drugs, it can scarcely be out of place for the opener to consider exactly where drugs stand in relation to other measures and what are the indications for their use.

Clearly the term "narcotics," as used in this discussion, is generic, and includes measures that allay pain, whether mental or physical, as well as measures that induce sleep. Otherwise we tend to make a convenient distinction between pain killers or narcotics proper, sleep producers or hypnotics, and measures which bring quiet and poise to the nervous system or sedatives. There is considerable overlap between these groups of therapeutic agents. All narcotics help to produce sleep, either indirectly or directly, but all hypnotics do not relieve pain unless used in doses large enough to produce unconsciousness which is more than mere sleep. In this case they are termed anaesthetics, and are, strictly speaking, outside the limits of our discussion. When the chief cause of sleeplessness is pain then even mild doses of narcotics, by allaying it, may induce sleep indirectly rather than directly, and sedatives, by cooling the fevered brain, prepare the patient for sleep which is then more natural than artificial.

Causes of Insomnia

The key to the successful treatment of insomnia, as in every other disease, is a correct diagnosis. We must track down the cause or causes. Psychical causes have been termed "primary," as against pain, fever, etc., which are regarded as "secondary." But sleep is so essentially a function of the whole organism that such a classification is as unsatisfactory as are most classifications in regard to diseases. Anxiety, or mental pain, is not the only

psychical cause of sleeplessness; all the emotions (remorse, fear, love, anger, sorrow, even joy) may give rise to it. These things require psychological treatment rather than, or as well as, drugs. The attitude of the patient's mind towards sleep and sleeplessness is sometimes very important, and especially the fear that want of sleep may cause him permanent injury. The fact that most people sleep more than is necessary, just as they eat more than is necessary, may be made use of in order to reassure the patient who is troubled on this score.

Purely intellectual brain work rarely, if ever, causes insomnia, provided the work be done under reasonably good physical conditions. But excitement—over-stimulation of the mind—frequently does. How, therefore, the patient spends the day, and especially the end of the day, is an important consideration. In some persons excess of bodily fatigue produces insomnia. More frequent causes are the various forms of dyspepsia, and in this category flatulence is a much more common factor than is pain. Here care is needed in the choice of food and the time of the last meal. Some patients sleep better if no food has been taken for at least two hours, and others if they take a little food just before retiring. For the dyspeptics the best hypnotics may well be an alkali, a carminative, or an antispasmodic.

Circulatory and respiratory troubles carry their special indications. Cough is a great disturber of sleep, and has its own list of causes needing consideration. Defects in the nose and other parts of the upper respiratory tract may also call for treatment; so also does pain, whether inflammatory, visceral, or due to direct nerve irritation as in sciatica and other forms of neuritis—or in neuralgia.

Fever, usually associated with toxæmia, demands special attention when present. Doctors and nurses who have not had experience of dealing with typhoid fever patients find themselves at a loss when the relatively unusual case of this disease appears in a severe form. When typhoid was much more rife and much more serious the routine was better understood and better practised. The influenza epidemic of 1918 found many practitioners ill prepared for the treatment of the sleepless pyrexial patient, the cardinal principle of adapting the bed-clothes to the height of the temperature, for example; rather than to the feelings of the patient, being often neglected. Organic brain diseases not infrequently demand hypnotic therapy, and this even when there is a general subsidence of the cerebral functions so that the patient is quiet for hours together. Encephalitis lethargica sometimes deceives us into thinking that the patient does not need sleep, and this may be a serious error.

* Read in opening a discussion in the Section of Neurology, Psychological Medicine, and Mental Diseases at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

Insomnia without Mental or Physical Cause

But we may assume that all these so-called secondary causes of insomnia have been passed in review and have been dealt with so far as is possible. We pass on to the "primary" causes of insomnia. Of course the major psychoses form a very important group; those characterized by excitement are not the only ones requiring hypnotic measures: states of depression may need them quite as much. I shall be followed by speakers who have special experience of handling these patients, so I shall not deal specifically with them. But the sleepless patient who is not the victim of any gross morbid mental defect on the one hand, and who does not suffer from structural bodily disease on the other, presents a problem to all who engage in general medicine.

Before we decide to use any hypnotic drug we cannot know too much about the patient, both his body and his soul. Not infrequently he needs no drug at all, but rather a careful rearrangement of his routine and his habits, and perhaps the restoration of confidence in his ability to sleep, which he may have lost. It is necessary to consider first of all certain general measures. The patient may be, as many of us are, sensitive to noise. If he is intelligent it is not perhaps the actual volume of sound during the night which keeps him awake so much as his appreciation of the fact that certain noises are needless and preventable. This sense of the fitness of things is disturbed, and a process of thought is set going on the matter and a feeling of provocation. Some of us are trying to remedy this evil of needless noise, and I am glad to see that this Association has thought well to express sympathy with our efforts. Next to quiet comes fresh air—proper ventilation of the bedroom. But it must be admitted that if fresh air can only be secured at the expense of extra noise, many patients find that they sleep better if they exclude both.

There is great individual difference in the matter of darkness or light, as there is in that of warmth or coolness; in these things the patient is often a law unto himself. So also is he, as already observed, when food is considered. But in the matter of mental relaxation as a preparation for sleep we probably all follow the same rule, that the more complete this is the more certainly will sleep come to us. Two other general considerations deserve mention—posture and the bed the patient lies on: here are materials for experiment in individual cases.

Indications for Salicylic Preparations

When we come to the question of drugs it is always worth while to consider the simpler remedies first. I have referred already to alkalis, and to carminatives. The salicylic preparations, and especially aspirin, are frequently very useful. Ten grains each of bicarbonate of soda and aspirin—powdered, of course, rather than in tablet form—constitute one of the most useful sleep producers for simple cases of restlessness that I know. The addition of the same dose of bromide of sodium or ammonium will often be effective in even more tiresome cases, where it is important to put a mute upon a too active mind. Smaller doses of pyramidon, or phenacetin, or antipyrine, or a mixture of these, find their indication in another series of cases where there are physical discomforts, such as headache, eyestrain, myalgia, or over-fatigue in the bodily, rather than in the mental, sense. As pure sedatives the bromides are far and away our most useful preparations for controlling discharges of central nerve energy, whether paroxysmal and purposeless as in epilepsy or merely excessive and wasteful.

Of alcohol as a narcotic much might be said. To the teetotaler it is an excitant, and therefore quite useless. To the person accustomed to take it in moderation certain forms of it act as a mild and useful sedative.

Opium, Hyoscine, and Chloral

The great indication for opium and its derivatives is pain, in the presence of which sleep becomes impossible. This is especially so in those conditions in which pain tends to show exacerbations during the night. It is generally quite useless to prescribe pure hypnotics when insomnia is the direct result of physical pain. But the addition of a small dose of such a drug as medinal to an opiate sometimes enables us to give less of the latter than would otherwise be needed. Opium has an undoubted function in some forms of mental pain; very small doses serve at times to produce a state of euphoria, which is helpful in the re-education of the patient's mind along the lines of increased confidence. The older physicians prescribed tinct. camph. co. for the hypochondriac, and one of the best remedies I know for that state of *misère* from which patients of a pessimistic type not infrequently suffer over long periods is a grain of pil. saponis co. twice or three times a day. It has the advantage of not revealing the nature of its essential ingredient, a not unimportant point in these days, when most patients read their prescriptions before they leave our consulting rooms.

The good effects of hyoscine in Parkinson's disease and post-encephalitic Parkinsonism are well known; but this drug is worth exploiting also in some allied states, though always in the smallest doses. For controlling excitement and delirium it is rather dangerous, or so I think. I have seen an excited pneumonic patient felled by it as one fells an ox, the quiet so effectually produced becoming quickly the quiet of death. I do not use the drug in delirium associated with acute infections, or with organic visceral disease. In such patients I rely very largely upon the somewhat old-fashioned mixture of bromide with chloral, and I control delirium tremens by the same mixture, being careful to begin its use too early rather than too late.

Chloral has, I think, gone out of fashion undeservedly. Strangely enough, even bromidia, possessing as it does the attraction of being proprietary, and containing a little of that drug so tinged with romance—cannabis indica—is used very much less to-day than formerly. As to cannabis indica, it is unlikely that many specimens are active, and, when they are, their action is so erratic and individual that it seems largely a gamble if the patient is helped rather than hindered in his search for mental rest.

Of the others of the older group of narcotics, paraldehyde, despite its unpleasantness, still retains a good deal of popularity. Few know the hint given many years ago by Bevan Lewis that tinct. quillaiae is its best adjuvant. The drug is an alcohol, and therefore acts incidentally as a volatile stimulant—one reason, no doubt, why, with all its nauseous qualities, it becomes occasionally the object of a drug habit. I have known a patient consume a pint in the twenty-four hours, and I remember diagnosing the case as I passed up the street and knocked at the door. For the rest, sulphonal, trional, and chloralamide seem to have lost favour, though we shall doubtless hear if this is as much so in asylum practice as it is in general work. This is an age when direct action is popular, and these drugs, to get their best effects, must be given some time before, and not immediately before, their effect is desired.

Intermediate between these older narcotics and the barbituric group are two bromide-urea compounds which deserve mention—bromural and adalin. I find them both useful, and since not a few patients remind me of the danger of what they call "dope," I am able to assure them that certain recent cautions applied to drugs of an entirely different class.

The Place of the Barbiturates

There is no doubt whatever, I think, that the introduction of the newer group of narcotics, termed "the bar-

biturates," has been a great boon to medicine. I refer, of course, to veronal, medinal, luminal, dial, allonal, and nembutal. Not that this exhausts the list: the ingenuity of the chemist and the pharmacist sees to it that the list shall be endless. The British patient, just back from the Black Forest or from Lausanne, proudly takes a carton of the latest isomer of veronal out of her pocket or vanity bag and says: "You will not have seen this new drug, doctor." And she is quite frequently correct. It is claimed for the new preparation that it has all the virtues and none of the drawbacks of the old; and so it may be taken with advantage and with impunity. It seems a pity to dash these hopes in the patient's mind, and, to tell truth, we British are too good doctors to yield to the temptation.

The chief reasons that the barbiturates mark an advance in our available narcotics is that the dosage is more exact and the effects more constant. The number of patients possessing intolerance is very small, and I think the ill effects which have been adduced against their use have been exaggerated.

May I now deal with a few general considerations? In the first place we should remember that there is no ideal hypnotic. To get a constantly reliable effect without passing through a preliminary stage of excitement, to get no gastric irritation or cardiac depression, to get rapid assimilation and equally rapid and complete excretion, and, finally, to get no tolerance established—to get all these things in any drug is impossible. But certain of the barbiturates seem to attain more nearly to this ideal than any other narcotics known to us.

It is not the drug but the drug habit that calls for condemnation. Stimulants and sedatives provide a means of relative or entire escape from the troubles of life, and in this respect narcotics do not differ from alcohol, cocaine, tobacco, and tea. Sleep is one of the safest and pleasantest forms of escaping life. Some folk are able to form this habit of escape without drugs; they are quite as vicious as their less fortunate brothers and sisters who need a drug in order to achieve this blessed oblivion.

I suggest that we pay more attention to the state of the patient's mind and nervous system and less attention to the mere provision of sleep. If we can help him to a state of equanimity during the day, sleep will be more easily won during the night. This leads me to refer to the fact that if half the evening dose of a narcotic be given in the morning and the other half at bedtime the effect is frequently much better. Even such a small dose of medinal as 2 to 2½ grains, say, with 5 grains of bromide, given at (say) eleven in the morning and again on retiring, may be more helpful than if the whole dose be given at bedtime. For one thing the patient is not strung up for the moment of doubt and fear that faces him when the night comes, itself a deterrent against sleep. Again, he does not regard the medicine as a dope of which he is afraid or ashamed, or both—more deterrents.

In other matters it is the day that counts. Patients not infrequently resist a tendency to sleep during the day, lest giving way should prejudice their chances of sleep during the night. I think this is an error. Sleep is a habit—protective no doubt—and I have sometimes found patients sleep better at night if they encourage a doze midday.

Finally, let us remember the efficacy of the sleeping draught (in these days I suppose I should say the sleeping tablet) that is not taken, but stands by the bedside "in case." We must not deny the patient this boon; indeed, we may now insist upon it, for the fear of the dope has with many become greater than the fear of sleeplessness, and we must avail ourselves in the patient's interest of this new fear while it lasts.

OVARIAN CONDITIONS AS CAUSES OF PELVIC PAIN*

BY

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PROFESSOR OF OBSTETRICS AND GYNAECOLOGY IN THE UNIVERSITY OF MANCHESTER

I welcome the opportunity of being one of the openers of a discussion on ovarian conditions as causes of pelvic pain because the subject is of interest to general practitioner and gynaecologist alike, and both will probably agree that so-called ovarian pain is one of the bugbears of medical practice. The word "bugbear" means "something frightful, as a spectre, or anything imaginary which arouses needless fear," and can only be rightly applied to pain that is supposed to, but does not actually, arise in the ovary. The object of our discussion to-day is to decide what conditions of the ovary do produce pain, or, conversely, how much of the so-called "ovarian" pain is really of ovarian origin.

Before attacking the main problem I would like to recall a few facts concerning the anatomy and physiology of the ovary. Although lying within the abdomen the ovary is not covered by peritoneum, but by a layer of cells, often imperfectly preserved, known as the germinal epithelium. This arrangement no doubt facilitates ovulation. T. C. Clare¹ has pointed out that the ovary is also unique in a physiological sense in that it is the only organ in the body normally subject to trauma and consequent reparatory changes. The trauma consists of the surface wound occurring at the time of rupture of the follicle; the reparatory process is the formation of the small scar by which the lesion is repaired. These two factors, together with a third—the periodic increase of tension within the ovary associated with ripening of the follicle and formation of the corpus luteum—have all to be considered in connexion with the subject of ovarian pain. The presence of follicular cysts in an ovary which is not adherent may be regarded as evidence of disordered function due to overactivity of the anterior pituitary, or, as suggested by Clare, increased formation of fibrous tissue (keloid) in the scars of the ruptured follicles, it being well known that there are wide variations in the regenerative capacity of different individuals.

The ovary is attached to the back of the broad ligament by its hilum, and as both uterus and broad ligament have considerable mobility the position of the ovary must be constantly changing.

The ovarian blood supply comes from both ovarian and uterine arteries, and the venous return is through the pampiniform plexus to the uterine and ovarian veins. On the left side the venous return is said to be somewhat hindered by the fact that the ovarian opens into the renal vein and not directly into the vena cava, but it must be remembered that the pampiniform plexus also drains through the uterine into the internal iliac veins.

The nerve supply is from the aortic plexus of the autonomic system, and reaches the ovary by way of the infundibulo-pelvic ligament and hilum. The surface of the ovary appears to be insensitive to mechanical stimuli, but firm pressure produces, as in the case of the testis, a sickening pain. True ovarian pain is splanchnic, and apparently of a low order; reflected superficial pain of ovarian origin only occurs when the parietal peritoneum is irritated by the ovary.

To simplify the discussion I have divided the ovarian conditions which may produce pelvic pain into four groups, under the headings functional, mechanical, inflam-

* Read in opening a discussion in the Section of Obstetrics and Gynaecology at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

matory, and neoplastic, but as they cover such a wide field and the space at my disposal is limited I propose to devote the greater part of this paper to a consideration of the functional group.

Functional Disturbances

In this group we have to consider those cases in which so-called "ovarian" pain is complained of although no definite pathological lesion can be demonstrated in the ovary.

Exactly thirty years ago, at the Annual Meeting of the British Medical Association at Oxford, the problem of so-called "ovarian" pain was discussed, and the discussion was dominated by the wise scepticism of the late Dr. Herman. You may possibly agree that a similar attitude of mind is right and proper to-day when assessing the value of certain new surgical procedures introduced for the relief of this troublesome symptom.

We have first to consider whether pelvic pain can be produced by follicle and corpus luteum formation, or by ovulation. As regards actual ovulation, it is quite possible that a certain amount of peritoneal pain may occur if blood escapes in quantity from the ruptured follicle.

Visceral pain is produced by tension within the organ affected, and it might be expected that the periodic distension which the ovary has to undergo during reproductive life would as regularly produce pain of that type. Nature, however, has saved womanhood from this misfortune by making the ovary practically insensitive to gradually increasing tension, and therefore it can be said that the follicular cycle is painless, or at the most attended with but slight pelvic discomfort in normal individuals. We must remember, however, that although the uterine contractions during menstruation are also practically painless, they are in some women quite otherwise, and produce the well-known "spasmodic" type of dysmenorrhoea. May not the process of follicle ripening behave similarly and produce ovarian dysmenorrhoea? In both uterine and ovarian cases we may (a) deny that the pain exists, as may be the case in certain hysterical subjects, (b) assume that the threshold for pain has been so lowered, as in neurasthenia, that the normal discomfort becomes a severe pain, or (c) attribute the pain to local disease.

In the case of the ovary the two local conditions which are said to produce pain are cirrhosis and sclero-cystic disease, but Herman² would have none of them, and in opening the discussion already referred to said:

"It is stated that cirrhosis is the final stage of sclero-cystic disease, but those who say it have adduced no evidence that this is so. Sclero-cystic disease is often present without pain. I find no criteria by which a sclero-cystic ovary which caused pain can be distinguished from one that did not. I find no criteria by which cirrhosis of the ovary can be distinguished from the natural shrinking due to age which is not painful nor by which a shrunken ovary which caused pain can be distinguished from one that did not."

And he concluded with these words:

"In brief, I know of no morbid change in a freely movable ovary that causes chronic pain. The so-called 'chronic ovarian pain' is either a reflected pain due to neurasthenia or is a manifestation of hysteria. It is not curable either by surgical treatment of the ovaries or by their removal."

Lhermitte and Dupont,³ on the other hand, are convinced that ovarian dysmenorrhoea exists, and give as its criteria premenstrual pain located in one or other side of the abdomen and radiating to the inner side of the corresponding thigh, with distant manifestations such as gastric disturbances and headaches. They have found the ovaries to be sclero-cystic in patients complaining of severe ovarian pain, and have been able to demonstrate

to their satisfaction various changes in the sympathetic nerve fibres similar to those found when a nerve is caught in a cicatrix.

I have given you two extreme views, and as usually happens the truth will probably be found to lie somewhere between them. There can be no doubt that a certain number of cystic ovaries do produce pain, but it is equally certain that a much larger number do not.

My own view with regard to these functional cases is that a woman with a lowered threshold for pain may genuinely complain of ovarian pain, and that this is produced by pressure upon the sympathetic nerve endings as a result of congestion, increased formation of scar tissue, or cyst formation.

Treatment of Functional Disturbances

Treatment in the first instance should aim at raising the tone of the patient's nervous system by ensuring physical, mental, and emotional rest. If there is no improvement after a thorough trial of these measures the pros and cons of surgical treatment may have to be considered. Conservative measures, such as puncture of the cysts or resection of portions of the ovaries, have been uniformly unsuccessful, and need not be further discussed. Removal of the ovaries is much too drastic a procedure, at any rate in younger women, and, in any case, the resulting menopausal disturbances will place a further strain on the already weakened nervous system.

During the last ten years operations upon the sympathetic nervous system have come into prominence in surgical literature, and, as was to be expected, have been employed in the treatment of various functional disturbances of the female genital organs. Excision of the so-called "presacral" nerve has been extensively employed in cases of uterine dysmenorrhoea, as well as for a variety of other conditions, but is not applicable to cases in which the pain is definitely ovarian. Cotte, whose work on presacral sympathectomy is so well known, has tried to cure some of these cases by periarterial sympathectomy of the ovarian artery in the infundibulo-pelvic ligament, but with indifferent success.

More recently Lhermitte and Dupont³ have published two series of cases in which they excised the ovarian nerves in the hilum of the ovary, and they claim good results, not only in the relief of ovarian pain, but also of those remote manifestations of disturbed ovarian function. Their results, however, are somewhat vitiated by the fact that in most cases other surgical procedures, such as removal of the appendix and hysteropexy, were carried out at the same time.

The operation, however, appears to be fairly easy, reasonably safe, and not harmful to ovulation, so it may be worth trying in those cases in which surgical intervention is considered necessary.

I have already referred to the possibility that the uncomplicated cystic ovary may be the result of endocrine disturbance, and if this be so it is quite likely that organotherapy, when it becomes a more exact science, will prove to be the best method of treatment for cases belonging to this group.

Mechanical Disturbances

The commonest mechanical disturbance of the ovary is prolapse, generally beneath a retroverted uterus, and as a result the ovary becomes more sensitive from congestion or pressure. In the normal individual discomfort or slight pain may be experienced on coitus or on defaecation, but in one who is neurasthenic the pain may be constant, severe, and debilitating.

Varicocele of the broad ligament is said to be frequently associated with ovarian prolapse, but its presence is

difficult to diagnose and its clinical importance somewhat doubtful.

A more serious occurrence is torsion of the ovarian pedicle, but this rarely occurs unless a cyst is present in the ovary. Sudden pain is the principal symptom, and this is partly due to increased tension within the ovary and partly to irritation of the parietal peritoneum by the damaged cyst wall.

Inflammatory Disturbances

Inflammation of the ovary is of frequent occurrence, and usually follows a salpingitis, the infection reaching the surface of the ovary and causing it to become adherent to neighbouring structures. The disturbance of function resulting from these adhesions may lead to cyst formation in the ovary. Infection may occasionally come by the blood stream, as in severe streptococcal infections or some of the acute fevers.

The inflamed ovary is an undoubted cause of pelvic pain, but as it is always associated with pelvic peritonitis, and in chronic cases with adhesions, it is the irritation of, or dragging on, the sensitive parietal peritoneum which is mainly responsible.

So-called "chronic ovarian pain" is frequently diagnosed as "ovaritis," but needless to say there is no pathological foundation for this diagnosis unless the ovary is adherent. The same criterion should apply in the case of the small cystic ovary, the significance of which has already been discussed.

Neoplasms

As a general rule ovarian tumours are practically painless unless torsion, degeneration, or infection occurs, which shows that the ovary is not sensitive to gradual distension.

Endometrioma, however, is an exception, and does, in the majority of cases, produce severe pelvic pain. These tumours are almost invariably adherent, and the pain is partly due to stretching of the ovary by effused menstrual blood and partly to dragging on the sensitive parietal peritoneum and nerves in the broad ligaments.

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The annual dinner of the British Serbian Units Branch of the British Legion was held in London at the Lysbeth Hall on September 27th. Lieut.-Colonel A. E. Kidd took the chair, and those present numbered 156, including a large party of Yugoslav ex-service men who were in London for the Federation Interalliée des Anciens Combattants. After dinner the healths of King George and the King of Yugoslavia were drunk, and were followed respectively by the National Anthem and the Yugoslav National Hymn. Colonel P. H. Mitchiner then proposed the toast of "The Guests," and Lieut.-Colonel Lioubomir Stephanovitch and Major Fetherston-Godley, chairman of the British Legion, replied. The Mitchiner silver bell and spoon for marksmanship was presented to Mr. Surtees Shill. The toast of "The Branch and its President" was proposed by His Excellency the Yugoslav Minister, and Colonel Kidd replied. All the speakers stressed the point that of the many branches of the British Legion this Serbian Branch was of particular importance owing to its international significance for Europe. The dinner was followed by dancing, during which the kolo, the Serbian national dance, was performed with much spirit by British and Yugoslavs. Among the principal guests besides those mentioned were Sir James Berry, Madame Agathonovitch, Lady Ralph Paget, Sir James and Lady Purves-Stewart, General Mihailovitch, and Colonel Blackham.

OVARIAN CONDITIONS AS CAUSES OF PELVIC PAIN*

BY

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This subject is one which bristles with difficulties and gives rise to much difference of opinion among gynaecologists. It is very controversial, and one's attitude towards its many problems is bound to evoke criticism. In perusing the literature of an older generation one is struck by the ready tendency to blame the ovaries for various vague pelvic pains, and to practise their removal as a means of cure. The frequent failure to relieve and the awful aftermath of the surgical menopause in young women caused a swing of the pendulum to present-day conservatism.

I propose to approach the subject from a purely clinical standpoint, and to consider the ovarian conditions which in my opinion do give rise to pain, mentioning in passing a few interesting cases, and then to discuss the best means of treatment.

It is essential, in the first instance, to accept the fact that it is necessary to find physical signs in the ovary or its neighbourhood before blaming it as a cause of pain, and that in the absence of physical signs it is extremely foolish to adopt any but the most conservative treatment. I, for my part, have experienced the post-operative annoyance of the patient whom I have opened only to find a normal pelvis. Neurasthenic women with ovarian pain are many, and it is much better to place them in the safe hands of a physician.

Ovaries which are the seat of chronic infection, cases of chronic salpingo-oöphoritis, and pelvic adhesions are constantly accompanied by pelvic pain. The burial of the ovary and the consequent difficulty of ovulation may help to produce this, but the drag of peritoneal adhesions also plays a part. The treatment lies in clearing up the pelvis, returning the organs to their normal position as well as possible, and removing what is beyond repair. Adhesions are liable to re-form, but one may count on some amelioration of symptoms.

Intermenstrual pain or "Mittelschmerz" may be considered here. I have seen two undoubted examples of this condition. I opened the abdomen and found enlarged, hard, white ovaries with thickened cortex and very few scars. My treatment consisted in shaving off portions of cortex and making criss-cross incisions. It was all I could think of doing at the time. The result, needless to say, was completely disappointing. When presacral nerve avulsion came into fashion I considered its possibilities in such cases, but fortunately realized in time that the presacral nerve has very little to do with innervation of the ovaries. The ovarian nerve supply derived from the aortic plexus comes down in the ovarian plexus and is delivered through the infundibulo-pelvic ligament and hilum. It is possible that division of the ovarian plexus in the infundibulo-pelvic ligament might relieve this condition, and if I met another case I should be inclined to try it; anterior pituitary hormone might also be a help.

Prolapsed and Cystic Ovaries in the Causation of Pelvic Pain

Prolapsed ovaries lying underneath a retroflexed uterus definitely give rise to pain and sometimes cause very severe dyspareunia. Such ovaries are sometimes cystic, and may have formed light adhesions to surrounding

*Read in opening a discussion in the Section of Obstetrics and Gynaecology at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

peritoneum. They are often congested, and during the premenstrual period they ache and become hypersensitive. A somewhat similar tenderness is produced in cases of varicocele, and here we find a definite referred pain, which is most marked half-way along the line joining the umbilicus to the mid-point between the symphysis pubis and anterior superior spine. This varicocele is an analogous condition to that found in the male which produces a testicular ache. It occurs in the pampiniform plexus, and shows itself as a markedly dilated and varicose condition of the ovarian veins running from the broad ligament through the infundibulo-pelvic ligament. I have noticed it a number of times at operations for chronic retroflexion, and I have seen it relieved by the Gilliam operation, which not only lifts up the uterus but also shortens the broad ligament and so relieves the kink. Pain is also produced in prolapsed ovaries not accompanied by retrodisplacement of the uterus, and this is best relieved by an operation designed to replace the ovary in as nearly normal a position as possible. This can be obtained by stitching a suitable point of the infundibulo-pelvic ligament to the side wall of the pelvis near the interior abdominal ring. One authority reports seventy-six such cases with 88 per cent. of cures.

Endometriomatous growths in the ovaries may cause pain, and ovarian dysmenorrhoea is common in such conditions. These growths tend to come on after the age of 30, and should be suspected in women complaining of dysmenorrhoea and lower abdominal pain starting at this age. Interstitial hæmorrhage in the ovary will also produce pain. I have noted these conditions at operation for pelvic pain, but they are not common.

I have little faith in the idea that the small cystic ovary occasions pain, and the so-called cirrhotic ovary is not in my opinion a pathological entity. Adhesions in the region of the infundibulo-pelvic ligament involving or catching up the fibres of the ovarian plexus may result in chronic ovarian pain and dysmenorrhoea. Such a condition has been described by Lupan following removal of appendix; a complete cure was obtained in his case by division of the plexus in the infundibulo-pelvic ligament. Peritoneal bands or adhesions to the ovary can produce pain; I had one such case following an appendicectomy when an omental band had caused internal pain in the rectum for a long period. Division of the band gave complete relief. Large tumours of the ovary, whether malignant or benign, do not as a rule give rise to pain unless the pedicle becomes twisted, causing congestion or formation of adhesions.

It is probable that the ovary itself is fairly insensitive, as otherwise the recurrent follicle ripening, with associated increase of tension, would produce pain. We must recognize, however, that at times the ovaries become more sensitive, for example, just before menstruation, or if there is any marked pelvic congestion; also in cases of repeated unsatisfied sexual stimulation there will develop a hypersensitiveness of the ovary. This is evident by the dyspareunia which sometimes develops in such women.

Apart from organic disease of the ovary we, as gynaecologists, are confronted with three conditions which have been, and will continue to be, dubbed ovarian pain: (a) reflected pain, (b) neurasthenic pain, and (c) hysterical pain. Abnormal conditions of the female genitals affect the lower dorsal and upper lumbar segments of the cord. This causes a hyperæsthesia of the cutaneous areas supplied by these segments, and consequently tenderness and pain on pressure over a fairly wide area situated between the umbilicus and the anterior superior spine. A diagnosis of oöphoritis is often made, although the ovary may be completely free from blame.

In neurasthenia we have a condition in which the resistance of the nervous system is decreased, and consequently the threshold for pain is lowered. This may be produced

by anaemia, chronic disease, long-continued suffering, or mental worry. The patient will complain of pain in the region of the ovary where no ovarian pathology exists. Lastly, in cases of hysteria the patient often fixes her attention on her ovaries, though the ovary is absolutely normal.

The lesson to be learnt from these considerations is that we must be extremely careful when a patient comes to us complaining of pain which she has been told is due to her ovaries. If on examination we find definite physical signs of pathology in her genitalia then we can with confidence recommend operative treatment. If we find the uterus and cervix healthy and normal in position, and we are not sure of the condition of the tubes and ovaries with regard to adhesions, possible endometriomata, displacements, etc., then we should explain the position carefully to the patient and advise an examination under an anaesthetic, and at the same time carry out a Rubin's test. This examination should put us in the position of knowing whether it is necessary to open the abdomen or not. It will also be of value from its suggestion effect on the patient.

Finally, if we are certain in our own minds that there is no pathological condition present we must tell the patient so firmly, and assure her that operative treatment will not improve her condition, and that if she has patience and adopts the measures necessary to improve her general health she will gradually get rid of her pain.

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TOTAL THYROIDECTOMY IN THE TREATMENT OF PATIENTS WITH CONGESTIVE HEART FAILURE AND ANGINA PECTORIS

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With a Note on the Anaesthetic by

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Any measure which promises to prolong, in fair comfort, the lives of patients with both the congestive and the anginal forms of heart failure, in whom the efficacy of all other forms of treatment has been exhausted, must command serious attention, as, if the promise is fulfilled, the method will have a wide application. It is for this reason that the papers of Blumgart¹ and Levine,² and their associates, have excited such great interest. They claim that the removal of the whole thyroid gland in patients without thyrotoxicosis, incapacitated by congestive or anginal heart failure, is not only comparatively safe, but that it so greatly improves the patients' condition that many of them again become capable of work. Blumgart³ says that the operation has now been performed with gratifying success in over fifty cases.

Rationale

It is established that ordinarily the heart's output of blood per minute varies directly as the rate of metabolism. The more rapid the metabolism the more oxygen do the

tissues use, and the more oxygen-containing blood does the heart have to send them. In hyperthyroidism the heart's output is increased because the metabolic rate is raised; in myxoedema metabolism is slowed and the cardiac output is diminished. In the late stages of congestive heart failure the heart's output of blood per minute is diminished, in spite of the fact that the metabolic rate is normal or even increased, and no doubt this is largely responsible for the symptoms at this stage.

Blumgart's preliminary researches were concerned, not with the volume of blood expelled by the heart per minute, but with the linear velocity of blood flow, and this was done in the present series because the linear velocity is easy to estimate, while the estimation of the volume output presents great technical difficulties in patients with congestive heart failure. Blumgart found that in health the linear velocity of blood flow through the lungs was proportionate to the metabolic rate. In hyperthyroidism the velocity was increased. In heart failure, even in its early stages, it was diminished. In myxoedema the velocity was as low as in heart failure, but there were no circulatory symptoms. Blumgart therefore argued that heart failure is due to the heart being unable to maintain a sufficient volume and velocity of blood flow for the needs of the tissues. The damaged heart, on ordinary medical treatment, is pumping the greatest volume of blood at the greatest speed of which it is capable, but the needs of the tissues are unsatisfied. The only course left is to reduce the metabolic needs (by thyroidectomy) to a level at which they can be satisfied by the diminished output of which the heart is capable.

Two further arguments support this. First, the most severe heart failure in cases of hyperthyroidism is usually completely relieved by subtotal thyroidectomy. Most observers agree that thyrotoxic heart failure is not due to organic damage to the heart, but partly to the occurrence of auricular fibrillation and partly to the increased metabolism making excessive demands on the heart. Again, patients with myxoedema rarely have circulatory symptoms, but sometimes, when thyroid extract is given, anginal attacks or congestive failure occurs, and the attempt to cure the myxoedema has to be abandoned.

Levine and Blumgart's Observations

If the argument is correct, improvement might be expected in angina pectoris as well as in congestive failure. It is thought that angina is due to the coronary arteries being unable to transmit enough blood for the increased needs of the heart during exercise. Thyroidectomy diminishes the body's oxygen consumption, both at rest and on exertion. The heart's work is thus reduced, and a large blood supply to the heart becomes unnecessary. Levine and Blumgart⁴ therefore tried the effect of partial thyroidectomy in a number of cases. They found that, though the symptoms were temporarily relieved, the metabolic rate soon rose again and the symptoms recurred, presumably owing to the regeneration of the fragments of thyroid tissue left behind. They also found that irradiation by x rays or radium was useless, as doses which do not damage the other tissues have little effect on the normal thyroid. It was evident that nothing short of total thyroidectomy was likely to succeed, and this was done in another series of cases. They have described in detail² the results in twenty-two cases, including cases of rheumatic, arteriosclerotic, hypertensive, syphilitic, and pulmonary heart disease, with congestive failure, angina, or both. All were unable to work, and many were bed-ridden.

The results in the twenty-one cases in which sufficient time had elapsed since the operation, after varying periods up to six months, were as follows:

(a) There were two operative deaths.

(b) One patient with frequent attacks of cardiac asthma had no more attacks for three weeks after the operation, but then died in his first post-operative attack. Another, with mitral stenosis and auricular fibrillation, was not improved, and died after a subsequent operation for pericardial adhesions. A third, with syphilitic aortic incompetence, angina, and congestive failure, was not improved, and died a few days after discharge.

(c) Two patients with mitral stenosis, auricular fibrillation, and congestive failure (one of them with a complicating chronic nephritis) were not improved.

(d) Three patients with angina and congestive failure were relieved of their angina. The congestive symptoms were improved greatly in one, slightly in another, and not at all in the third. All three were much more comfortable than before the operation.

(e) One patient with only angina was completely relieved.

(f) Ten patients with congestive failure were much improved. Patients previously orthopnoeic and bed-ridden were able to lie flat, and to be up and about without distress, and some were able to return to light work.

(g) Signs of slight hypothyroidism often developed, and small doses of thyroid extract had to be given continuously to five patients, and for a short period to two others. The mental slowness and heaviness of myxoedema rarely appeared, and most of the patients said they were mentally quicker than before the operation, no doubt owing to the improved cerebral circulation. Slight signs of tetany appeared for a few days in some cases, but were easily controlled by calcium and vitamin D.

Present Series

Such successful results in patients hopelessly ill indicated that the method was worthy of further trial, and this paper gives the initial results in a small series of six cases. They had all been observed for months or years by one of us in the out-patient department, Queen's Hospital, Birmingham. They were all incapacitated by their cardiac symptoms, which were slowly progressing in spite of treatment, including, in four cases, one or more periods of in-patient treatment. So far as could be forecast, they had not more than a few months or years of increasingly miserable existence before them. Cases in which the cardiac lesions were rapidly progressing—for example, cases of active rheumatic or syphilitic disease—were excluded. None had clinical evidence of hyperthyroidism, though in some, as is common in heart failure, the basal metabolic rate was raised.

Preliminary Investigations.—In order to diminish subjective errors a number of objective measurements were made before operation for comparison with the post-operative findings, and although the changes in the patients' symptoms were often greater than indicated by the measurements, it may be of interest to record the results in the accompanying table. Radiographs of the heart and electrocardiograms were taken. The venous blood pressure was measured by the direct method, since a rise in the venous blood pressure is a fairly early sign of congestive failure, and a fall usually occurs with improvement. The velocity of the circulation through the lungs was measured by the cyanide method of Weiss and Robb.³

About 7 minims of a 2 per cent. solution of sodium cyanide is injected into a vein at the elbow; this travels to the heart, through the lungs (which takes most of the time), and out into the systemic arteries. When it reaches the carotid sinus, at the bifurcation of the common carotid artery, it suddenly stimulates a great transient increase in the rate and depth of respiration. The time between the injection and the first deep inspiration is taken with a stop-watch.

The vital capacity of the lungs was measured by means of a spirometer. It is thought that a vital capacity diminished by the encroachment of distended pulmonary capillaries on the air space, or by the congested capillaries making the lung more rigid, is more closely related

Table Showing the Results of Special Examinations Before and After Operation

Case	Time in Relation to Operation	Venous Blood Pressure in cm. Saline	Pulmonary Circulation Time in Seconds	Vital Capacity in c.cm.	Basal Metabolic Rate (per cent.)	X-Ray Findings	Electrocardiogram
I	Before	7.0 to 12.5	10.5 to 19.6	1,700 to 2,300	-2 to 0	Heart enlarged to left	Left ventricular preponderance. Depressed S-T I and II. Deeply inverted T I
	After	8.0 to 10.0	10.0 to 17.6	2,000 to 2,300	-8	Increase in enlargement to left and right	
II	Before	9.3	13.2	2,300	+4 to +15	Heart enlarged to left	Left ventricular preponderance. Diphasic T I and II
	After	0.5 to 3.2	18.6 to 19.6	2,300	-9	Unchanged	Unchanged
III	Before	17.0 to 22.5	25 to 26	2,300	+12	General enlargement of heart	Bundle-branch block of the unusual variety
	After	19.0 to 21.0	29 to 33	2,400	-5	Slight increase in enlargement	Unchanged
IV	Before	6.0 to 15.2	12.2 to 16.4	1,900	+16 to +20	General enlargement of the heart	Left ventricular preponderance. Diphasic T I and II
	After	8.0	16.3 to 18.0	2,100	0 to +2	Unchanged	Unchanged
V	Before	2.2 to 3.2	21.6	2,300	+19 to +20	Heart normal in size and shape	Intraventricular block
	After	2.5 to 5.0	21.6	2,500	-7	Slightly enlarged	Diminished voltage of QRS waves and flattened T waves
VI	Before	4.0 to 10.2	10.2 to 15.4	1,400	+28 to +31	Heart enlarged to left	Left ventricular preponderance. Negative T I
	After	6.0	15.6	1,700	+21	Unchanged	Unchanged

to the occurrence of cardiac dyspnoea than is any other factor.

These tests have been done repeatedly on all the patients during the time they were being watched in the out-patient department. In addition, photographs were taken so that any subsequent change in their appearance due to myxoedema might be more readily appreciated. Finally, their exercise tolerance was carefully estimated. Five patients walked up and down the ward until compelled to stop by pain or dyspnoea, and the number of times they walked the length of the ward and the time taken to do so were observed. The sixth patient was able to walk slowly on the flat almost indefinitely, and she was made to walk up a flight of stairs until compelled to stop. In each case the test was repeated several times on different days, and the best result taken for comparison with the post-operative findings.

The Anaesthetic.—Local anaesthesia was not used for several reasons. We thought it desirable to minimize mental stress in patients subject to angina pectoris. The added adrenaline is also liable to bring on anginal attacks. It was thought possible that a cervical block might paralyse the phrenics, with disastrous results in patients already dyspnoeic. Finally, orthopnoeic patients, if conscious, would be unable to lie in the "thyroid position." Avertin-gas-oxygen anaesthesia was ultimately decided upon. Avertin ensures quick induction and avoids pulmonary irritation, but it depresses the circulation and respiration and reduces the blood pressure. Gas and oxygen is non-toxic and non-irritant, and it tends to stimulate the circulation and respiration and to raise the blood pressure, thus counteracting the undesirable effects of the avertin. Glucose was given in large quantities for several days before the operation in order to protect the liver (already damaged by chronic venous congestion) against the toxic action of the avertin. Atropine 1/75 grain was given an hour before the operation. The avertin, (0.1 gram per kilo of body weight in 2½ per cent. solution) was given with the patient lying on his left side with his head propped up on pillows, and he remained in that position till narcosis was produced. The patients may, however, be moved to the theatre and placed in the thyroid position on the operating table without undue anxiety. The gas and oxygen was given by Magill's mask and the Clausen harness method. An airway was inserted as soon as possible, and a high percentage of oxygen was necessary in order to maintain a good colour.

The operation must be approached with great circumspection, and the procedure must be delayed if anything occurs which might further handicap the patient tem-

porarily. Berlin's technique⁶ was that essentially followed.

The whole thyroid gland, with the pyramidal lobe and any near-by nodules of aberrant thyroid tissue, was removed. The chief dangers are that the recurrent laryngeal nerves may be cut and that the parathyroids may be removed. The recurrent laryngeal nerve is best sought for after the upper pole has been freed, and while the lateral lobe is being drawn towards the mid-line. It is a comfort to see that the nerve is safely left behind, but if a careful search shows that it is not running through the terminal branches of the inferior thyroid artery it can be accepted that it is safe. The total removal of the parathyroids can be avoided by observing the following: (a) the parathyroids, unlike aberrant thyroids, are not rounded, but elongated, flattish, and soft; (b) they are usually wrapped in a little fat; and (c) one or more are usually well away from the thyroid, at least 1 cm. from the lower pole of the gland.

The operation, *pace* those who scoff at the dissecting surgeon, is a *dissection*, to be done deliberately. Haste is more dangerous to the patient than a little extra anaesthesia. After the operation the patient should be kept lying flat until consciousness returns, when he is propped up. Cyanosis should be prevented, while the patient is lying flat, by the use of oxygen.

Records of Six Cases

CASE I

History.—Mrs. K. P., aged 49, hypertension, with coronary sclerosis and ? occlusion. Angina pectoris and congestive heart failure. Under observation since February, 1931. Since 1928 stiffness of left hip, and much pain in the back. Since 1929 severe headaches and retrosternal pain, spreading down left arm to the wrist on exertion. In March and September, 1932, and February, 1933, complained of attacks resembling coronary occlusions—severe cramp-like epigastric pain, coming on while at rest, spreading to the chest, not relieved by amyl nitrite, lasting several hours. Since the first of the attacks ankles began to swell, she became very dyspnoeic and orthopnoeic, and, though just able to get about, was unable to do her housework. In spite of treatment, including two periods in hospital, she continued to go downhill. In addition to her cardiac symptoms she was troubled at intervals by severe pain in the back, associated with osteoarthritis of the spine.

Examination.—She was of the hypersthenic, plethoric type. The left hip showed great limitation of movement. She was orthopnoeic. The liver was large and tender. There was slight oedema of the ankles. The apex beat, which was forcible and heaving, was just outside the mid-clavicular line. The aortic second sound was very accentuated. The blood

pressure ranged from 220/130 to 290/160. The electrocardiogram showed left ventricular preponderance, and a depressed S-T interval in Leads I and II.

Operation.—Total thyroidectomy (January 10th, 1934). Thyroid of average size and appearance, and normal histologically. Her condition caused no anxiety during or after the operation, though for three days her blood pressure fell to 126/76. There was slight pyrexia for three days, and a little cough for a further few days.

Progress.—Her condition greatly improved for two months after the operation. Before operation she had to be propped up in bed with a bed-rest and three or four pillows, and could only walk five times the length of the ward in two and a half minutes before having to stop because of pain and dyspnoea. After the operation she dispensed with the bed-rest and used only three pillows, and she walked six times the length of the ward in two minutes without discomfort, and then stopped only because of the jocular comments of the other patients. After returning home, she found she could walk to hospital and up the stairs to the ward without discomfort, though previously she had to stop many times on her way to hospital. Angina occurred only after excessive exertion, such as walking up three flights of stairs to the laboratory immediately after walking to hospital. Her dyspnoea was also much less, and she was able to use only two pillows without a bed-rest. Her oedema has disappeared. During the next three months, however, she had a return of the pain in the back due to arthritis of the dorsal spine, and her activities were much reduced by this. Her dyspnoea is now greater than in the two months after her operation, though less than before the operation, and she has had no angina at all for the last three months. She feels that but for the pain in the back she is better than she has been for years. She has developed slight hypothyroidism, with puffiness of the eyelids and roughening of the skin, but there is no perceptible slowing of the mental processes, and she herself thinks she is brighter and mentally clearer than before.

CASE II

History and Examination.—Mr. H. P., aged 53. Hypertension, ? coronary disease, and angina pectoris. Under observation since August, 1933. Severe anginal pain, stopping him after walking thirty yards slowly on the level. Unable to do even light work. Unimproved by treatment, including a period in hospital, and prophylactic nitroglycerin. Apex beat one inch outside mid-clavicular line. Accentuated aortic second sound. Thickened arteries. Blood pressure 164/106 to 206/118. Electrocardiogram showed left ventricular preponderance, diphasic T I and II.

Operation.—Total thyroidectomy February 19th, 1934. Gland of average size and appearance, and normal histologically. His condition during and after the operation caused no anxiety, but he developed painful red swellings of the joints of the hands after operation, which troubled him for several weeks. (He had been subject to "rheumatism" for years.)

Progress.—Before operation he developed some pain after walking four times the length of the ward, and was forced to stop after walking eight times in three and a half minutes. After operation he walked ten times the length of the ward in four and a half minutes without pain, though he was slightly dyspnoeic. Since leaving hospital he finds he can walk much further on the flat without pain, but he still gets pain on walking uphill. No evidence of hypothyroidism has developed, though he has put on a little weight.

CASE III

History and Examination.—Mrs. G. W., aged 48. Hypertension, ? coronary disease, congestive failure, and angina. Under observation since November, 1932. Since 1929 increasing dyspnoea on exertion. Unable to walk up flight of eleven steps at home without resting: for same period angina on exertion. Oedema of ankle since April, 1932, and swollen abdomen (ascites) since October, 1932. The ascites disappeared under treatment with mercurial diuretics in hospital, but the other symptoms became slowly more marked. She was unable to do any housework. Marked cyanosis and orthopnoea (bolster and three pillows). Marked oedema of

legs, and, when first seen, great ascites, recurring slightly from time to time while under observation. Large tender liver. Apex beat in sixth space two and a half inches outside mid-clavicular line, and dullness one inch to the right of the sternum. Loud systolic murmur in tricuspid area. Pulmonary and aortic second sounds much accentuated. Blood pressure 220/138 to 236/142. Electrocardiogram showed bundle-branch block of the unusual type.

Operation.—Total thyroidectomy, March 28th, 1934. Gland of average size and appearance, except that there was a long pyramidal lobe which was traced to the region of the hyoid, where it tore away. Histologically gland showed some fibrosis, and a parathyroid was seen in its substance. Her condition caused no anxiety during or after the operation.

Progress.—Two weeks after operation she dispensed with one of her pillows, and then, after returning home, with another. Before operation she was stopped by pain and dyspnoea after walking four times the length of the ward in two and a half minutes, and at home had to rest while going up a flight of eleven steps. Two weeks after operation she stopped because of slight dyspnoea, without pain, after walking eight times the length of the ward in three and three-quarter minutes, and she walked twice up and down a flight of twenty-seven steps with no discomfort at all. Since returning home she walks to hospital and up the stairs to the ward without discomfort, whereas previously she had to rest several times on her way to hospital. She has not yet begun to do any housework, though she feels well enough to do so. Her cyanosis is less, she has oedema only of the right leg, which has thrombosed varicose veins, and the liver is not tender, though still large. Her blood pressure is 196/120. There is no evidence of hypothyroidism.

CASE IV

History and Examination.—Mrs. G. D., aged 54. Hypertension, coronary disease, angina, and congestive failure. Under observation since September, 1932. Headaches and increasing dyspnoea since 1929. Angina on effort since March, 1933. Occasional attacks of mild cardiac asthma, lasting up to two hours, since April, 1933. For six months before admission unable to do housework because of dyspnoea and pain. Stout, plethoric, and orthopnoeic. Large tender liver. Apex beat in fifth space in mid-axillary line. Dullness one inch to right of sternum. Blood pressure 236/138 to 270/150. Electrocardiogram showed left ventricular preponderance, diphasic T II and III.

Operation and Progress.—Total thyroidectomy April 11th, 1934. Gland of average size and appearance, and histologically normal. Her condition caused no anxiety during or after the operation. Before operation, stopped because of pain and dyspnoea after walking six times length of ward in six minutes. Twelve days after operation she walked fourteen times the length of the ward in five minutes, and then stopped only because her legs were tired, not because of pain or dyspnoea. After resting fifteen minutes she walked twice up and down a flight of twenty-seven steps without distress. Improvement continued after returning home, and she is now doing all her housework except the heavy washing. The only sign of hypothyroidism is slight roughening of the skin.

CASE V

History and Examination.—Mr. W. N., aged 54. ? old coronary occlusion, angina. Under observation since January 11th, 1934. In October, 1933, while at rest, had severe precordial pain radiating down both arms lasting several hours (probably due to coronary occlusion). Since then anginal pain on slight exertion. Unable to do even light work. Emphysematous chest. Thickening of arteries. Heart of normal size. No murmurs. Blood pressure 152/98. Electrocardiogram showed intraventricular block.

Operation and Progress.—Total thyroidectomy April 11th, 1934. Gland of normal size and appearance, and normal histologically. Somewhat collapsed immediately after the operation, but had recovered the same evening, and after this was troubled only by a little cough, apart from local discomfort. Before operation had to stop, because of pain and dyspnoea, after walking six times length of ward in two and a quarter minutes. The pain was not relieved by prophylactic nitroglycerin, and was no better after three weeks in bed. Several attacks of pain while in bed. Only slight improve-

ment after operation, as the patient still got occasional slight attacks while at rest, and was forced by pain to stop after walking ten times length of ward in three and a quarter minutes. Before operation he had to stop at least six times on his way to hospital. Now has to stop only once, but is still incapable of work. No obvious hypothyroidism.

CASE VI

History and Examination.—Mrs. F. R., aged 58. Hypertension, congestive failure, cardiac asthma, and angina pectoris. Under observation since September, 1933. Since February, 1932, attacks of paroxysmal nocturnal dyspnoea, with precordial pain radiating down left arm. At end of attack brings up about half a pint of frothy sputum. Since onset, increasing dyspnoea and oppression in chest on exertion. Unable to do housework for six months before admission. Thin, nervous woman. Apex beat in sixth space one inch outside mid-clavicular line. Accentuated aortic second sound. Marked arteriosclerosis. Blood pressure 208/110 to 246/140. Electrocardiogram showed left ventricular preponderance, inverted T I.

Operation and Progress.—Total thyroidectomy April 21st, 1934. Gland of average size and appearance, except for cyst 1 cm. in diameter in right lower pole. Normal histologically. Her condition caused no anxiety during or after operation. Before operation was forced to stop after walking twice up a flight of twenty-seven stairs in five minutes. After operation walked three times up and down same stairs in four and three-quarter minutes without distress. She was able to get about much better after discharge, but six weeks after operation she suddenly became unconscious, was paralysed down the right side, and died the same day, after readmission to hospital. Post-mortem revealed a greatly enlarged heart, due to hypertrophy of the left ventricle. There was very little coronary atheroma. A large haemorrhage into the left cerebral hemisphere had burst into the lateral ventricle.

Discussion

It is striking that all six of these seriously ill patients stood the operation so well. One was a little collapsed for a few hours, but the others gave no anxiety. So far only two patients show signs of slight hypothyroidism, in spite of the removal of the whole thyroid gland. Blumgart and Levine also found that the signs of hypothyroidism by no means always appeared. Kocher in 1883 said that myxoedema almost always followed total thyroidectomy, but the collective investigation on myxoedema by the Clinical Society of London in 1888⁸ showed that in many cases myxoedema did not occur. The committee concluded that "the apparent immunity in many cases was probably due to the presence and subsequent development of accessory thyroid glands, or to accidentally incomplete removal, or to the insufficiently long observation of the patients after the operation." All the patients in the present series were middle-aged, and it is possible that the thyroid in middle and old age is less active and less essential than in youth. It is striking that one of the patients displaying the obvious physical signs of hypothyroidism does not show the characteristic mental slowness. This is probably due to the improvement in the cerebral circulation relative to the needs of the brain.

Some improvement in the circulatory symptoms occurred in all cases. In Cases II and V it was slight, in Cases I and VI it was moderate, and in Cases III and IV fairly marked. Patient VI died of cerebral haemorrhage six weeks after the operation; it seems improbable that her death was hastened by it. No patient is free from symptoms, but all were capable of more exertion than before operation, and one has already taken up her housework again, after being unable to do it for more than six months. Some improvement occurred in both the congestive and the anginal symptoms, though previously the patients were going steadily downhill in spite of all treatment. It seems fair to attribute the improvement to the operation and not to rest in bed in hospital,

because all the patients were kept in bed for two or more weeks before the operation without improvement, while four had had one or more previous periods in hospital without benefit. Moreover, the patient was kept in bed for only five to twelve days after the operation.

It cannot yet be foretold how long the improvement will last. As the underlying cardiovascular disease is slowly progressive, it can only be a matter of time before the capacity of the heart is again lowered below the demands of the body, lowered though these are by thyroidectomy, so that sooner or later the symptoms will no doubt recur. The patients are being kept under observation, and it is hoped to make a further report on their condition in about twelve months' time.

The cause of the improvement is not yet entirely beyond doubt. It seems very probable that the main factor is the reduced metabolism. Although the heart can drive on no more blood than before, the small volume it can drive on is now sufficient for the diminished needs of the body. This statement needs modification in two particulars. First, if the needs of the body are reduced so much that the heart, instead of being "all out," is able to reduce its work without the tissues suffering, the heart is rested, and recovers some of its lost reserves, so that it becomes able, when necessary, to expel more blood than before the operation. Secondly, in myxoedema the heart is usually enlarged and less efficient than normal, though the inefficiency is masked by the diminished needs of the tissues. There are also characteristic electrocardiographic changes. Both the enlargement and the electrocardiographic changes usually recede under treatment, showing that they are due to the myxoedema, and not independent changes. In three of the present series the heart enlarged, and in two electrocardiographic changes occurred, after the operation (see table). Any impairment of the heart's efficiency due to myxoedematous changes would tend to counteract the benefits of the reduced metabolism.

Levine pointed out that improvement sometimes occurred at a time when there was no change in the metabolic rate, though the basal metabolic rate usually fell, with further improvement later. This was also true of some of the present series. But too much stress should not be placed on basal metabolic rate readings taken shortly after operation. Possibly apprehension may be responsible for unduly high readings at this stage. Levine suggests that some of the improvement, especially in cases with angina, is due not to the diminished work of the heart but to humoral changes, particularly an alteration of the reaction of the heart to adrenaline. This suggestion is based on his previous work,⁹ in which he stated that in patients subject to angina an attack can always be precipitated by an injection of adrenaline. He suggests that in the absence of thyroid secretion this perhaps may not occur. This seems to be purely speculative, and, moreover, other observers do not agree that angina can always be precipitated by a dose of adrenaline, so that there is no need to consider this hypothesis further at present.

Though the diminished need of the tissues for oxygen-containing blood after thyroidectomy is no doubt the chief factor in the improvement, Blumgart's observations on the velocity of the circulation must not be held to prove this. The linear velocity of blood flow depends not only on the output of blood by the heart per minute, but also on the cross-sectional area of the vessels through which the blood flows. If the volume of blood expelled by the heart per minute and the cross-sectional area of the vessels are both halved, the linear velocity of blood flow remains unaltered. In early congestive heart failure the velocity of blood flow through the lungs may be much slowed, though the output of the heart per minute is practically unaltered. This is

because the dilatation of the pulmonary capillaries increases the cross-sectional area of the vessels through which the linear velocity of flow is measured. The linear velocity of blood flow can therefore be taken as an index of the work done by the heart only if it can be shown that the cross-sectional area of the vessels remains unaltered. In the cases under consideration there is no absolute proof of this, though there is indirect evidence pointing in this direction. The vital capacity of the lungs gives an indication of the cross-sectional area of the pulmonary vessels, since if these are dilated the vital capacity is diminished as the air space is encroached upon. In Blumgart's cases, as in our own, the vital capacity was unaltered or slightly increased, showing that the pulmonary vessels were, if anything, less dilated than before. The velocity of circulation through the lungs after the operation is either unaltered or slowed (see table). These two facts together—namely, a lessened linear velocity through narrowed vessels—show that the volume of blood flowing through the lungs per minute is diminished. Since the output of the left ventricle must equal that of the right, this indicates that the heart as a whole is doing less work.

Summary and Conclusions

The whole thyroid gland has been removed in six patients without hyperthyroidism, showing incapacitating congestive heart failure, angina pectoris, or both, in whom all previous treatment had been ineffectual. There were no operative deaths, though one patient with a very high blood pressure died of cerebral haemorrhage six weeks after the operation. All six patients showed slight to fairly marked improvement in their circulatory symptoms after the operation, and were capable of more exertion. One of them, who had done no housework for over six months, is now doing all her housework except the heavy washing. The cases are all too recent for the permanent effects to be judged, but it is hoped to report on their condition again in about twelve months' time. Slight signs of hypothyroidism appeared in two cases only. The rationale of this method of treatment is discussed.

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Juliette Harburger (*Thèse de Paris*, 1934, No. 284) states that during the last two years (1932-3) observations at the Hôpital Laennec, Paris, have shown that alcoholic cirrhosis is three times as frequent in women as in men, and that the disease is more fatal in women (0.73 per cent.) than in men (0.09 per cent.). The malignant hypertrophic forms of cirrhosis are those most frequently found in women, as is shown by the fact that out of twenty-three cases thirteen were hypertrophic and ten atrophic. During the same period 1932-3 alcoholic neuritis showed the same frequency, relative proportion, and characters as in the case of alcoholic cirrhosis, there being four female cases to one male. The inversion of the ordinary frequency of alcoholic symptoms in the two sexes appears to be due both to social conditions, such as the employment of women in factories, and the economic crisis, and to anatomic-physiological conditions, the women representing a new and therefore particularly susceptible soil for alcoholic intoxication.

TRAUMATIC RUPTURE OF THE LUNGS WITHOUT SIGNS OF TRAUMA IN THE CHEST WALL

BY

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As the title suggests, we are concerned in this note with traumatic rupture of the healthy lung. Pathological perforations due to tuberculosis, abscess, emphysema, empyema, neoplasm, etc., and pulmonary laceration by fractured ribs, stabs, and projectiles have been excluded in the cases mentioned, either by necropsy or by the circumstances, age, and history rendering the presence of any of the above conditions extremely improbable. From time to time during the past century these cases have been published. The increase in the number of deaths by violence will, no doubt, bring more to notice, and further emphasize the fact that extensive damage to internal organs—rupture of the lungs, liver, kidneys, spleen, bladder, and intestines, and, for example, extensive retroperitoneal haemorrhage—frequently occurs without any external evidence of trauma. Injury to the abdominal viscera would appear to be due to direct violence to the organs through the flaccid abdominal wall, as in the case of the passing of a cart wheel, or the wheel of any heavy vehicle, over the abdomen, or by blows or falls in which the abdomen is forced on to a projecting ledge.

Rupture of the lungs cannot be so simply explained. Traumatic rupture of the lungs without injury to the chest wall may be of three types, any of which may occur alone, or the lungs may present all types in varying degree.

Pneumothorax Type

The first condition is simple rupture of a few alveoli, leading to pneumothorax without evidence, such as haemoptysis or haemothorax, to suggest extensive damage to the parenchyma. These cases are not very infrequent, but as the vast majority recover completely they are not published.

Giovanni,¹ in 1861, recorded the case of a boy, aged 15, over whose chest the wheel of a carriage passed. He died on the tenth day. At necropsy no fracture of the ribs or sternum could be detected, but air escaped on opening the thorax. Another instance is the following. A healthy young woman, aged 19, slipped from the top of the household step-ladder, and felt something unusual in her right side. On x-ray examination a pneumothorax was found with complete collapse of the right lung. No fracture of the ribs or other injury to the chest wall could be found. She made an uneventful recovery. No evidence of any lung disease could be found at the time, and radiological examinations at intervals during the subsequent eighteen months failed to detect any signs of tuberculosis.

Parenchymal Rupture

In the second type rupture of the lung parenchyma occurs without laceration of the visceral pleura. On section the lungs present numerous haemorrhages, varying in size from a pea to a walnut, or larger. The haemorrhages completely disintegrate the lung tissue, giving the appearance of cavities filled with blood. In addition, there are ecchymoses throughout the lung fields. Neither pneumothorax nor haemothorax is present, but haemoptysis is constant, and may be the only sign.

Moore² published an example. A healthy young man fell off a horse and sprained the left wrist and bruised the left elbow. No bruise of the chest wall and no fracture of the ribs could be found. He had severe haemoptysis and died three days later. The following is another instance. In 1934 a healthy man, aged 42 years, received a blow on the chin and fell to the ground. He died in a few moments from haemorrhage into the fourth ventricle. No marks of violence

were found, but at necropsy the upper lobe of the left lung presented several haemorrhages in its substance, the largest being the size of a walnut.

Combined Type

The third type is a combination of the foregoing conditions much exaggerated. The visceral pleura is torn, there is haemopneumothorax, and there are extensive haemorrhages into the lung substance.

On May 7th, 1934, a girl, aged 15, collided whilst cycling with an on-coming motor-car, and was thrown into the air. She sustained fractures of the right femur, right humerus, and right clavicle. The ribs and sternum were intact. No bruises could be found on the chest, nor was there any effusion of blood into the muscles of the thorax. The ribs, as one expects in a girl of this age, were very resilient. There were two and a half pints of blood in the right pleural cavity, and the right lung was collapsed. There was a laceration, extending deeply into the lung tissue, six inches in length, on the posterior surface of the right lower lobe, and another two inches in length on the internal surface. The right upper lobe presented a tear, three inches in length, on its anterior surface. In front of this laceration a piece of the upper lobe, two square inches in extent, was almost completely severed. Haemorrhages of various sizes, with disruption of the lung tissue, were present, and numerous ecchymoses mottled the lung fields. The left lung presented similar haemorrhages and ecchymoses, but there was no rupture of the pleura.

Smith³ mentions a case of a boy, aged 8 years, who, in 1896, was run over by a heavy cart. There was not the slightest trace of abrasion or bruising of the skin of the chest, nor behind the ribs and sternum, but the upper lobe of the right lung had been cut completely off from the root of the lung, and was floating freely in a pleura full of blood.

Similar cases are recorded by Le Conté,⁴ Wideroe,⁵ Kerr,⁶ MacTaggart,⁷ and Spiers.⁸

Discussion

Injuries of the type described above must occur frequently, but rupture of the lung is comparatively rare. A convincing hypothesis on the physics of traumatic rupture of the lung is difficult to propound, especially when the characteristics of the normal lung are considered. The recorded cases are almost all in young persons. With the exception of the case mentioned above, MacTaggart's case seems to be the oldest—a man, aged 35, fell from a scaffold thirty-five feet high; his lungs were ruptured, but no ribs were fractured. This suggests that resilience of the ribs may be an important factor. But however resilient the ribs it is unthinkable that direct violence without gross damage to them could rupture the tough, spongy, non-resistant lung unless some other factor or factors were present.

It is reasonable to suppose the other factors to be an expanded lung and a glottis closed at the moment of impact. Given these three conditions—resilient ribs, expanded lungs, and a closed glottis—the effect of sudden violence might be likened to the bursting of a blown-up paper bag between the hands. Both lungs are affected, but greater damage might be expected on the side receiving the greater force.

The absence of bruising in some cases of internal injury and in violence to other parts of the body is a constant source of surprise to the legal mind and to juries. The factors governing the production of bruises are not fully understood, and all that can be said is that violence, and extreme violence, is frequently unaccompanied by bruising.

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MORBIDITY IN A FAMILY TREE

BY

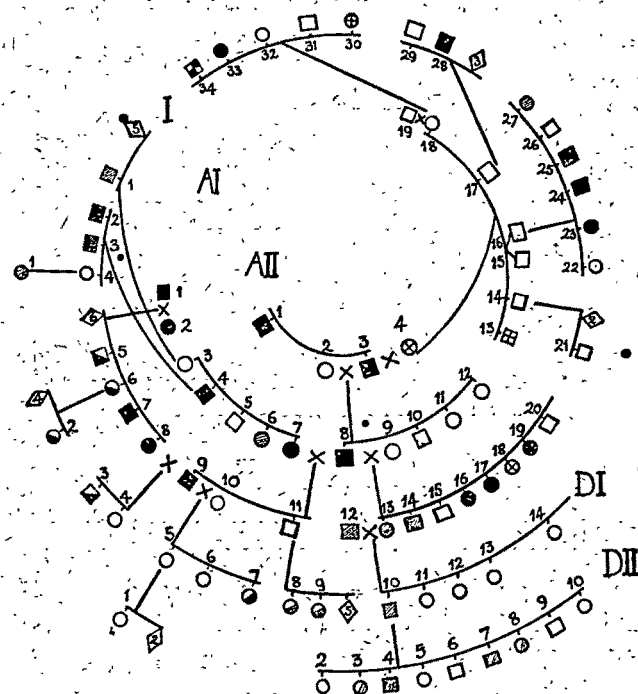
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The study of human heredity is a relatively unexplored part of the young science of genetics, and for obvious reasons progress therein must be slow. Thus it is important to record even a single family tree, to afford material for later research. The present case is brought forward for this reason, and also in the hope that it may interest some practitioners in the investigation of the vast amount of similar material to which they have special access.

The bulk of the records were obtained from the matron of a large hospital, who had kept old family diaries, and who could speak personally of many of the members.



Squares indicate males. Circles indicate females. Blacked-in signs indicate cardiovascular cases. Shaded signs indicate tuberculosis. Signs containing cross indicate malignancy. Half shading indicates individuals still alive. Diamonds indicate siblings of indeterminate history, and the number within the diamond the number of such siblings.

Some individuals were known to the investigator, and in some instances the family physician supplied valuable details. The rest of the data were obtained from others of the family, independent confirmation being sought in all cases. The subject studied was the cause of death, although it is admittedly not an ideal one for such investigations, since it is so frequently uncertain, and post-mortem reports are not commonly available. It can, however, yield a certain amount of information, particularly in instances such as this, where many of the records give clear indication of the major morbid factors.

The tree is given graphically in the figure, and the international convention of nomenclature has been adopted. One generation has been arbitrarily named I, and the ancestor and descendant generations are called AI, DI, and so on. The individuals in each generation are numbered consecutively. Siblings of negative or unobtainable history are indicated by diamonds, the number within showing the number of children. The progeny have not been shown when all the offspring yield no

data of any kind. In-comers by marriage are only given when necessary. Cardiovascular cases are indicated by blocked-out signs, tubercle by cross-shading, and malignancy by a cross. All the members are Scottish, except where otherwise stated.

NOTES ON INDIVIDUAL CAUSES OF DEATH

Case	Cause of Death	Notes
AII.1 ...	Paralytic stroke	Over 80
AII.2 ...	Died in childbirth	4-para. Italian
AII.3 ...	Apoplectic seizure	Aged 71
AII.4 ...	Malignant disease (abdominal or pelvic)	Over 60. French
AI.1 ...	Series of paralytic strokes	Aged 68
AI.2 ...	Several paralytic strokes	Over 70
AI.4 ...	"Heart disease"	Aged 64
AI.6 ...	Adult tubercle	—
AI.7 ...	Paralytic stroke	Aged 70
AI.8 ...	Sudden death	Aged 65
AI.9 ...	—	Second wife of AI.8. Cousin of the first wife, AI.7
AI.11 and AI.12	—	Died at 82 and 86 respectively
AI.13 ...	Tumour, probably malignant	—
AI.15 ...	—	Twin: died a few days after birth
AI.16 ...	—	Enlargement of the liver
AI.17 ...	Typhus	Between 40 and 50
AI.18 ...	From uterine fibroid	18 years' invalidism; aged 50
AI.19 ...	Pneumonia	Aged 52
I.1 ...	Tubercle	—
I.2 and I.3	"Strokes"	Over 60
I.5 ...	—	V.D.H. following on acute rheumatism; alive, over 60
I.6 ...	—	Hemiplegia; alive, aged 73
I.7 ...	Cerebral haemorrhage	Just over 60
I.8 ...	Apoplexy	Aged 48
I.9 ...	V.D.H. and Bright's disease	Aged 59
I.11 ...	—	Alive and well: aged 77
I.12 ...	Tubercle	Husband of I.13, who also died of tubercle
I.14 ...	Tubercle and pneumonia	When adult
I.16 ...	Cardiac failure	Aged 75
I.17 ...	Cerebral haemorrhage	Aged 80
I.18 ...	Malignant disease	Over 60
I.19 ...	Apoplexy	Aged 73
I.20 ...	Sunstroke in India	Between 40 and 50
I.21 ...	—	Aged 16
I.22 ...	Following upon operation	Nature unrecorded
I.23, I.24, and I.25	? Heart failure	No details
I.27 ...	Tubercle	Aged 12
I.28 ...	Cardiac failure	About 70
I.29 ...	—	Aged 71
I.30 ...	Carcinoma of stomach	Aged 74
I.1 ...	Following prostatectomy	Aged 79
I.32 ...	—	Alive and well; aged 87
I.33 ...	Angina pectoris	Over 60
I.34 ...	Angina pectoris and carcinoma of oesophagus	—
DI.1 ...	Tubercle	When a young adult
DI.2 ...	—	V.D.H. following on acute rheumatism; alive, aged 49
DI.3 ...	—	D.A.H.; alive, aged 35
DI.6 ...	Diphtheria	Aged 12
DI.7 ...	—	D.A.H. and pulmonary congestion; alive, aged 55
DI.8 ...	—	Tuberculous glands in neck; alive, aged 37
DI.9 ...	—	Tuberculous glands in neck; meningitis in infancy; alive, aged 28

NOTES ON INDIVIDUAL CAUSES OF DEATH (continued)

Case	Cause of Death	Notes
DI.10 ...	Tubercle	Over 50
DI.11 ...	—	Acute rheumatism (heart?); alive, aged 31
DI.13 ...	—	Tuberculous glands in neck; alive, aged 38
DI.14 ...	Infantile tubercle	—
DI.16 ...	Died soon after birth	—
DI.17 ...	Pneumonia and tubercle	Aged 16
DI.18 ...	—	Tuberculous hip; alive, aged 34
DI.19 ...	Died in early infancy	—

Summary

Summarizing these results, the notes of 108 individuals are recorded, of whom twenty-one are known to have died from cardiovascular disease (this does not include the case of sunstroke), and five cardiovascular patients are alive; five had malignant tumours, one of whom also had angina pectoris; of thirteen tuberculous cases four patients are alive. Sixteen patients are known to have attained the age of over 70 years, and a further twelve to have passed 60.

In the absence of data regarding the members of whom nothing is recorded, an extended analysis of this tree is scarcely justified. At the same time some support seems to be afforded to Weitz's¹ conclusion that hypertension is a hereditary diathesis. He says:

"It appears to me beyond question that a dominant heredity accounts for the majority of the cases. For most of the others a dominant heredity is probable but not certain; there is a small residue of instances in whose production heredity has not been shown to play a part."

It must also be noted that many of the individuals reached an advanced age, and so the expected incidence of cardiovascular degeneration among them would be much increased. But at the same time, if a hereditary tendency to hypertension is indeed present, as would seem to be the case both in the main stock—that is, progeny of AII.3, and in the subfamily of AI.1 and AI.2—then it would be expected to manifest itself at the weakest point of the constitution when old age advanced nearer to dissolution.

The hereditary aspects of malignant disease and rheumatoid diathesis are now attracting much attention, while the relation of inheritance to tuberculosis has been extensively investigated. For a full discussion of these subjects, and also of the inheritance of cardiovascular defect, reference should be made to Baur, Fischer, and Lenz,² who deal with the whole topic in a wide and inclusive manner.

The expenses incident to this investigation have been met by a grant from the Ella Sachs Plotz Foundation.

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K. O. Evensen, writing in the August issue of *Norsk Mag. f. Laegevid.*, reports a case of aortic rupture in a man aged 52 who lived two and a half days after the rupture had taken place. The clinical symptoms were haemopericardium and ascites. The blood pressure was high, the systolic being 170 and the diastolic 80. The urea in the blood serum was 155 mg. per c.cm. Electrocardiographic examination showed negative T waves in the first two leads. Post mortem, a large heart, weighing 1,000 grams, was found. The pericardial sac contained 800 c.cm. of blood. A nearly complete rupture was discovered 2 cm. above the aortic valve. Macroscopically no morbid changes could be seen on the aortic wall, but, microscopically, slight inflammation changes in the media and some arteriosclerotic changes were detected.

Clinical Memoranda

ACUTE RETENTION OF URINE

AN UNUSUAL COINCIDENCE

The occurrence of acute retention of urine in the same individual twice in less than two years from such different causes as carcinoma of the penis and enlarged prostate may be considered sufficient excuse for the publication of the notes of the case.

The patient, a gnarled old labourer who, after years of toil had found a peaceful haven as a lavatory attendant, was 71 years of age when first seen on February 21st, 1932. He sent for me because he was unable to pass a drop of urine. There had been some slight difficulty for a few days previously. On examination the bladder was found to be distended and there was a large fungating mass at the tip of the penis involving the prepuce and the glans, and apparently completely blocking up the meatus urinarius. The patient was very vague as to how long the growth had been present. I admitted him at once to hospital and ordered him a hot bath and 30 minims of tincture of opium. This failed to relieve him, so after a considerable amount of difficulty I managed to find the meatus and passed a gum-elastic catheter. This was left *in situ* and the bladder drained by stages. As there were no enlarged glands to be felt in either groin, and as the patient's general condition was so feeble I decided that a partial amputation of the penis would have to suffice. This I carried out on February 24th. The wound healed remarkably well, but there was still some difficulty with micturition, so the patient was taught to pass a rubber catheter on himself. He left hospital on March 12th. When I saw him again on March 16th the left leg was swollen and tender on account of a deep venous thrombosis. He continued to pass a catheter on himself until March 23rd, when he found that he could pass water naturally. By the end of March he was walking about again, and in the middle of April he returned to work.

For six months after operation I saw him regularly once a month and thenceforward at two-monthly intervals. There was no sign of recurrence, either locally or in the inguinal glands, and the act of micturition gave rise to no difficulty or discomfort. At the regular inspection on July 12th, 1933, everything appeared to be in perfect order. On July 14th he walked into my consulting room evidently in considerable pain, and reported that he had been unable to pass any water for twenty-four hours. His bladder was felt reaching up to the umbilicus. There was no obstruction at the urethral opening and he was soon relieved by the passage of a large silver catheter. He came again next day and reported passing only a few drops of blood. Examination revealed a moderately enlarged prostate, so into hospital he went again. Drainage of the bladder by an indwelling catheter was resorted to and continued for ten days. The catheter was then removed in the hope that natural function might have been restored. It was not, so a further spell of drainage was tried. At last I decided, with considerable reluctance, that the only choice left open was removal of the prostate. This I did by the suprapubic route on August 21st, 1933. The prostate was the size of a tangerine, with a central flap, which, falling across the urethral opening, completely blocked it, but which was quite easily pushed up out of the way by the point of the catheter. There was a rather severe secondary haemorrhage on the sixth day, but otherwise progress was good and the patient was discharged to his home on October 14th with the wound healed and dry. A few days later a small pin-point fistula formed in the wound, and this remained a source of annoyance, though only a few drops of urine escaped each day until December, when it finally dried up. On December 21st I was sent for late at night and found the patient in agony, with the left testicle swollen and excruciatingly tender. Suppuration followed, and finally the testicle sloughed completely.

The final chapter in this tale of woe was that in March of this year a large hernia appeared through the operation

scar. Now, fitted with a belt, he is able to walk three or four miles a day, pass water "like a king"—as he expresses himself—and he is quite keen to return to his subterranean duties. Incidentally, this case illustrates what an extraordinary amount of trouble can be survived on occasion by one who, judged by all ordinary standards, would be considered a thoroughly bad surgical risk.

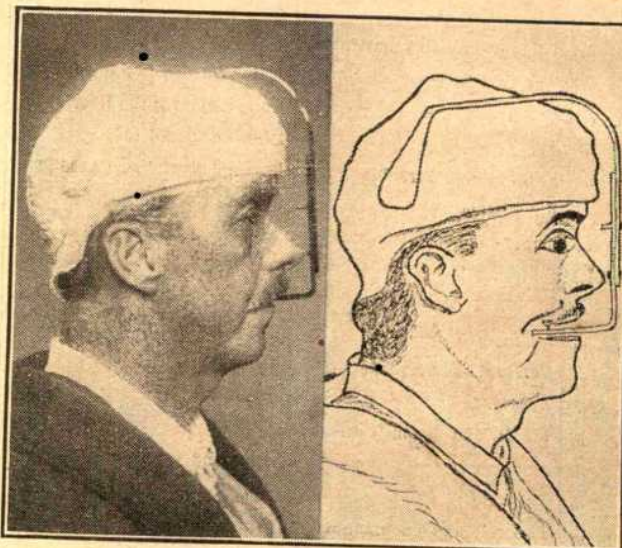
Bridlington.

C. J. GORDON TAYLOR, M.D., Ch.B.

TREATMENT OF MAXILLARY FRACTURES

Although fractures of the maxilla are relatively rare, with modern conditions and means of transport they are now becoming increasingly common. Many require very little in the way of surgical appliances, but a certain number may present difficulties which are not easily overcome. The following case, and the method of treatment, may be of interest.

A man aged 52 was admitted to hospital, very shocked, and bleeding profusely from a large laceration at the root of the nose. A fracture extended transversely across



the root of the nose, completely detaching the whole of the maxilla. There was downward and backward displacement of the maxilla of about a quarter of an inch, but the maxilla was freely movable.

The treatment was complicated by: (1) the absence of any articulating teeth; (2) oral sepsis (there were several broken-down teeth and roots present in each jaw); (3) the displacement; (4) facial injuries. Factors (1) and (2) made the use of mandibular-maxillary pressure useless, whilst (3) and (4) were incompatible with the use of a winged maxillary dental splint.

The following splint was devised (see figure), which consists of two main parts—an iron strut fixed to a plaster cap, and a strut having a small vulcanite maxillary dental plate attached to its distal end. The two struts are fastened in the required position by screws passing through a slot, thus giving an adjustable proximation.

The advantages of the method are: (1) comfort to patient and ability to have facial dressings performed without moving splint; (2) the patient can still feed in comfort; (3) he can sleep with head in any required position; (4) he can keep his mouth in aseptic condition; (5) the method provides a strong enough splint to attain and retain anatomical reposition of structures, and there is therefore less likelihood of infection.

A. SIMPSON-SMITH, M.Ch., F.R.C.S.

W. M. GRAVES-MORRIS, L.D.S. R.C.S.Eng.

London, S.E.1.

Reviews

INFLUENZA

The enormous literature of influenza necessitated the division of the monograph published by the Pickett-Thomson Research Laboratory into two parts. Part I was reviewed in this *Journal* on April 21st and its general standard of excellence commented on. We have not had long to wait for the companion volume,¹ which fully maintains the standard set by its predecessor; the medical profession will be grateful to Drs. D. and R. THOMSON for this comprehensive and valuable book of reference.

Part II opens with a chapter on the complications and sequelae of influenza, and since probably no other infectious disease gives rise to so many complications it is not surprising that their consideration should occupy 300 pages. None have been overlooked—in fact, the authors' policy has been to include all the available published evidence, confining critical remarks to their summaries and conclusions, which follow each chapter or section. The effect of influenza on various physiological states such as menstruation, pregnancy, labour, and the puerperium, and its influence on other diseases are discussed in the next three chapters. The suggestion which has been made occasionally that influenza may initiate such conditions as diabetes mellitus, Addison's disease, and pulmonary cancer is dismissed as extremely doubtful and unproven, but stress is laid on the unfavourable effect of concomitant influenza on many diseases, more particularly pulmonary tubercle and surgical conditions.

Chapter XL is devoted to pathology—a comprehensive account—and this brings us to a consideration of epidemiological data. There is still a lot to learn about the epidemiology of this disease, which is responsible for such enormous and serious pandemics. Is there more than one strain of virus? Is the high mortality of the secondary waves of epidemics due to co-operation between the prime cause and a secondary infector, the two passing together as one aetiological agent? What is the relationship of interpandemic influenza to epidemic influenza, and how often do we err in the diagnosis of the sporadic case? Only a more intimate knowledge of the prime cause of the disease will enable us to answer these questions, and the authors rightly hail as of fundamental importance the recent work at the National Institute for Medical Research in this respect. Following this are chapters on the mode of transmission, and vaccine and serum prophylaxis and therapy. Everyone will agree that direct transference from patient to patient represents the way in which the great majority of infections take place: although this disease may occasionally be spread indirectly by articles used by the patient, this can hardly be of great epidemiological importance.

The authors' summing up on vaccine prophylaxis also is not likely to meet with much dissent. They agree with the view recently expressed by Dochez and his colleagues that by the use of vaccines the incidence of influenzal pneumonia can be lessened; whether the use of vaccines made with the prime causal agent will be of any value only future experiment can decide. Convalescent serum in prophylaxis and treatment has not received extensive trial, and the authors suggest that further work should be done along these lines. Finally, we have chapters on prevention and treatment. Prevention can really be summed up in good personal and

environmental hygiene and avoidance of infection. Attention is rightly drawn to the fact that nasal douches and gargles may be harmful through irritation of the mucous membranes; care should be taken in their choice. The authors have a preference for one containing sodium ricinoleate in an oily medium.

The volume closes with an addendum on work published too late to be dealt with in its appropriate section, a list of some 4,500 references and authors, and subject indices. The authors state that they propose to rest for a few years from the labours entailed in the compilation of these monographs; they surely deserve to.

MEDICAL TREATMENT

The seventh volume of the series on medical therapeutics published in connexion with the chair of therapeutics of the Faculty of Medicine of Paris has now appeared.² This volume deals with the treatment of affections of the blood vessels and kidneys, and like the former ones is brought out under the immediate supervision of Professor LOEPER, who himself contributes several chapters. The subject is divided into sections, each separately considered. For instance, the affections of the kidney are discussed under the headings of the kidney and its response to diuretics, treatment of renal lithiasis, haematuria, urinary antiseptics, tuberculosis of the urinary tract, and general chapters on bleeding as a therapeutic measure, the effect of endocrine gland extracts on renal function, and the principles of dietetics in nephritis. The idea is to approach therapeutics from the clinical aspect, explaining the genesis of the symptoms as an indication for treatment, and the physiological use of a medicament in order to decide whether to prescribe it or exclude it in varying circumstances. There is thus a certain amount of duplication in the sections, but the articles are well written and full of information. For those who can read easy French this volume will be useful as a guide to modern therapeutics. It is more suitable for a library than for the practitioner's consulting room, as the series is to be completed in nine volumes, each costing 45 to 50 francs.

SURGERY FOR THE G.P.

Surgery of a General Practice,³ by ARTHUR E. HERTZLER and VICTOR E. CHESKY, is a development of a book on minor surgery which appeared four years ago, and it endeavours to give the general practitioner the information he requires for dealing with such surgical conditions as may lie within his scope. The first part is devoted to a consideration of wounds and haemorrhage and all infective conditions, and this is followed by a general survey of the whole of surgery, including the special region of the nose and nasopharynx, and gynaecology, but excluding the abdomen. The concluding portion deals with such technical matters as the preparation of materials, the closure of wounds, bandaging, and general therapeutic methods.

The compression of such a range of material into so brief a compass necessarily means very unequal treatment, and we feel that it would undoubtedly have been better to limit the subject-matter to conditions which the general practitioner may actually be called upon to treat. The injection of the trigeminal nerve, for example, can scarcely come within his scope, whilst half a page is scarcely sufficient for a discussion on carcinoma of the tongue.

² *Thérapeutique Médicale*. Vol. vii, *Vaisseaux et Reins*. By Maurice Loeper. Paris: Masson et Cie. 1934. (Pp. 340; 26 figures. 50 fr.)

¹ *Annals of the Pickett-Thomson Research Laboratory. Influenza*. Part II, Monograph XVI, vol. x, May, 1934. By D. and R. Thomson. London: Baillière, Tindall and Cox. 1934. (Pp. xix + 961. £3 3s.)

³ *Surgery of a General Practice*. By Arthur E. Hertzler, M.D., and Victor E. Chesky, M.D. London: Henry Kimpton. 1934. (Pp. 602; 472 figures. 42s. net.)

When in the latter case we are told that "complete destruction with the cautery under local anaesthesia gives as good results as most radical operations," and when radium is not even mentioned, we can understand that "treatment is discouraging in the extreme."

Like most American publications, the volume is finely produced and magnificently illustrated. The illustrations alone are well worthy of the study of anyone engaged in the practice of surgery, whether as a general practitioner or as a consultant. Many of them illustrate rare conditions and should be of great assistance in their diagnosis, but we have sufficient confidence in general practitioners in this country to be sure that they will never attempt to treat them.

PICTURES OF EYE DISEASES

There have appeared of late quite a number of atlases of drawings of eye diseases and abnormalities as displayed in the fundus by examination with the ophthalmoscope. Now one has been issued which deals with external conditions. Mr. HUMPHREY NEAME has compiled an *Atlas of External Diseases of the Eye*,⁴ and his fifty-one pictures cover a wide variety of disease. Some are of the simplest and most familiar order, such as the picture of the common sty; others are of an exceptional and rare type, such as that of a war injury, the result of burns by dichlorethyl sulphide, or mustard gas. There is not unnaturally a great temptation to include pictures of rarities, just because they may, and in this instance we hope sincerely will, never be seen again. But in a little book that is evidently intended for students such inclusions would seem to be a mistake; rather, the space might have been given to the further illustration of more common conditions, such as interstitial keratitis, of which there are only two illustrations, yet the forms of the disease are protean. Facing each figure there is a page of text. There are terse details on synonyms, symptoms, diagnosis, aetiology, pathology, course, prognosis, treatment, and complications. The drawings are excellent, and the reproduction by process blocks is as good as this can be. But the somewhat florid complexion of this means of reproduction makes us sigh for the delicate beauty of the old-time lithography.

BACTERIOLOGY

MACKIE and MCCARTNEY'S *Introduction to Practical Bacteriology* is well known to laboratory workers in English-speaking countries. It has passed through four editions in nine years, each edition providing an expansion of contents without, fortunately, adding much to the bulk of the volume. A feature particularly welcome in the latest edition⁵ is the description of the methods Dr. McCartney has developed for substituting stoppered bottles for cotton-wool-plugged test tubes. The advantages claimed for this is that the stock of media does not get so dry when stored for a few days, and the bottles can be more easily packed and transported. Whether or not the new methods will prove as satisfactory as the old can only be decided by experience, but in the meantime pathologists will be glad to have a description of the new canned medium methods. This book has always been a very good one for reference purposes. During the four or five weeks since it was sent to the reviewer it has happened that he has had to look up a number of points of technique. On each occasion he has looked first to

see if the question was dealt with in the new Mackie and McCartney. The subjects have included methods for the isolation of viruses, the diagnosis of climatic bubo, the natural diseases of guinea-pigs, complement-fixation tests in diseases other than syphilis, and the identification of *Salmonella* bacteria, etc. On each of these subjects he has found something fresh and useful in the new edition of this book.

Dr. GOHAR'S *Elementary Bacteriology*⁶ has been written for medical students preparing for their examination in pathology. It will probably be useful for this purpose because the facts are set out in a pithy way without any detail which the student could regard as redundant. Looked at from a more disinterested point of view the book is open to much criticism, for its many mistakes in spelling (some of which are corrected on an errata slip attached to page 136), and for the poor character of the illustrations. The two sections at the end of the volume, on blood diseases and elementary hygiene, are out of place in a textbook on bacteriology.

SCIENCE AND SOCIAL NEEDS

Professor JULIAN HUXLEY'S *Scientific Research and Social Needs*⁷ is published as the first volume of a library of science and culture which is to be issued under the editorship of Professor H. Levy. The purpose of the library is stated to be the presentation of a picture of the world as science is shaping it. Professor Huxley has undertaken a pilgrimage of survey, at the suggestion of the B.B.C., into the activities of British science, and this volume is partly an account of his survey and partly his comments thereon and those of others with whom he has discussed its bearings. In the first half of the book there are chapters dealing with research in relation to food, building, clothing, health, and transport, and each of these chapters contains records of great interest; the rest is devoted to the discussion of the relations between science and social affairs. The general observation is made that while the applications of science to industry are highly developed and financially supported, biological and humanistic research is relatively undeveloped and ill supported. In arriving at this verdict Professor Huxley does not appear to have taken into account the work that is being done in the medical sciences in institutions throughout the country which are not under public authority and which, presumably, should be included in the humanistic class. Throughout the volume he uses the word "science" in a more restricted sense than is generally favoured to-day, when the tendency is to extend the title to all "gathering of evidence," whether this proceeds to judgement or whether judgement is suspended. He has a particular complaint as to the little use which public authority is making of psychological science, but the reason for this is not far to seek: considering the psychological knowledge at present available and agreed, as distinct from opinions and doctrines, it would be difficult to justify the establishment of a specialist psychological service in public institutions independent of medical service.

The book includes discussions with Professor Levy, with Sir T. D. Barlow on "Research and Industry," and with Professor Blackett on "Pure Science." The discussions with Professor Levy turn chiefly on the political aspects of sociology, and the reader is given glimpses of a society regimented and controlled on "scientific principles," in which all national distinctions have disappeared. Those who plan on this scale might

⁴ *Atlas of External Diseases of the Eye*. By Humphrey Neame, F.R.C.S. London: J. and A. Churchill, Ltd. 1934. (Pp. 110; 51 coloured plates. 15s.)

⁵ *An Introduction to Practical Bacteriology: A Guide to Bacteriological Laboratory Work*. By T. J. Mackie, M.D., D.P.H., and J. E. McCartney, M.D., D.Sc. Fourth edition. Edinburgh: E and S. Livingstone. 1934. (Pp. 504. 12s. 6d. net, postage 6d.)

⁶ *Elementary Bacteriology*. By M. A. Gohar, Ph.D., F.R.C.P.E., M.R.C.P. Cairo: F. E. Noury and Sons. 1934. (6s.)

⁷ *Scientific Research and Social Needs*. By Julian Huxley. London: Watts and Co. 1934. (Pp. 287; illustrated. 7s. 6d.)

profitably consult the experience of the profession of medicine, and among the points in that experience specially worthy of attention are the lessons it has learnt regarding the value of the panacea, the confident dogma, and the too hastily welcomed remedy. The idea that society is a proper object for "scientific" treatment is declared by Professor Huxley to be revolutionary. Presumably he has in mind some wholesale treatment, for the beginnings were made long ago. The idea of running and controlling society as a business venture on scientific principles has its fascinations, and no doubt the few in control would enjoy life; but it would be difficult to find to-day a body of scientists of the first rank who would be willing to draw up a scheme of complete reorganization and to guarantee that, under it, the many would enjoy themselves. One "scientific principle" held, at any rate, by medical science is that the time to apply a remedy is when the result is predictable; application without this proviso is called by another name. The rule is cautious, but is it over-cautious?

In his chapter upon science and health Professor Huxley debates many questions of great importance: to several of them he would be among the first to admit that answers cannot be given. With the answer which he gives to one the medical profession is in complete accord—namely, that the best of all weapons against disease is the maintenance of a high standard of general health.

Notes on Books

With the increasing use of the rhesus monkey for experimental purposes the need for a manual on the anatomy of this animal became imperative. Consequently the American Association of Anatomists in 1930 set up a committee to go into the matter, and a book^a has now appeared in which eighteen contributors collaborated. The B.N.A. nomenclature is used throughout, the terminology of human anatomy having been chosen rather than that of comparative anatomy. Nearly all the illustrations were drawn especially for this book by a medical artist, Benjamin Kopel.

Two numbers of *Tabulae Biologicae Periodicae*^b which have recently appeared contain collected data over a wide range of biological sciences. Two articles are of interest in relation to human physiology: one on the energetics of contraction of skeletal muscle, and another on blood groups. The former article gives collected data showing the heat production, lactic acid production, oxygen usage, etc., of skeletal muscle. Most of the figures refer to frog's muscle. The particulars have been assembled from seventy-four papers, most of which were published during the last five years. The article on blood groups contains a large amount of interesting data. Diagrams are given which show the relationships between man and the anthropoid apes, as indicated by the blood groups. The inheritance of blood groups is becoming a question of medico-legal importance, and this article shows the chances of inheritance from all the various types of parentage; it also discusses some of the theories of gene distribution that have been advanced to account for these figures. Finally, there are data regarding the geographical distribution of blood groups.

The small monograph *Hallucinations et Délire*^c written by Dr. HENRY EY, with a preface by Dr. J. Séglas of the Salpêtrière, is based on work carried out in the clinic of Professor Henri Claude. The author discusses the relationship of verbal psychomotor phenomena and hallucinations. He divides hallucinatory phenomena into three main

^a *The Anatomy of the Rhesus Monkey (Macaca Mulatta)*. Edited by Carl G. Hartman and William L. Straus, jun. London: Baillière, Tindall and Cox. 1934. (Pp. 383; 128 figures. 27s.)

^b *Tabulae Biologicae Periodicae*. Band III, No. IV; Band IV, No. I. Berlin: W. Junk. 1934. (M. 55 for single volumes; M. 48 for subscribers to whole work.)

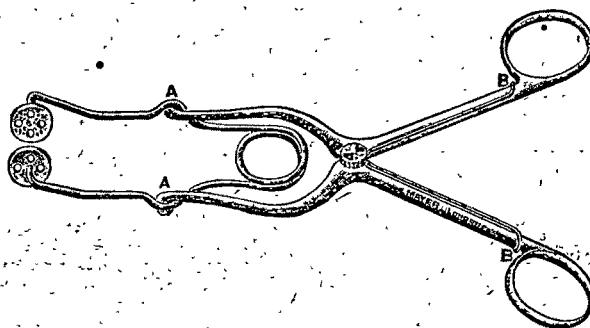
^c *Hallucinations et Délire*. Par Dr. H. Ey. Paris: F. Alcan. 1934. (Pp. 192. 15 fr.)

groups—illusions, hallucinations, and pseudo-hallucinations—which he defines as objectifications of the phenomena of thought and language. In all of these there is both a sensory and a motor component. The book is divided into two sections, the first dealing with hallucinatory symptoms and verbal automatisms, the second with verbal automatisms and delusional forms. It will well repay reading because the author gives the views of the French school of psychiatry, including the well-known work of Clérambault.

Preparations and Appliances

MODIFIED BENEY'S TONSIL CLAMP

Mr. ALEX. TUMARKIN, F.R.C.S. (Ed. (Liverpool)), writes: Nowadays dissection of tonsils under general anaesthesia is becoming more and more the operation of choice. Haemorrhage is, of course, the main bugbear, and the widespread use of Beney's tonsil clamps is sufficient proof of their efficiency. My own method is to dissect the right tonsil first, and then, as quickly as possible, and without looking for any bleeding points, to apply a large dab to the tonsillar fossa and keep it in place with a Beney clamp. The left



tonsil is treated similarly, by which time removal of the right pack usually reveals a dry fossa. The interval between removing the tonsil and applying the dab should be as short as possible, so as to minimize the brisk haemorrhage which frequently occurs. Unfortunately, using the ordinary Beney handle, one often fumbles for valuable seconds in picking up the clamp, and it is precisely during those seconds that the pharynx can fill dangerously with blood. I have therefore modified the handle simply, so that its points (A A) lie in abduction, as in the figure, instead of adduction. The clamp is thus firmly gripped in the handle and can be picked up and applied in a moment.

The instrument was made to my design by Messrs. Mayer and Phelps of New Cavendish Street, London, W.1.

ACETYLCHOLINE BROMIDE

We have received specimens of acetylcholine bromide prepared in ampoules (0.1 gram in 1 c.cm.) for intramuscular injection (Burroughs Wellcome and Co.).

During the last year it is probable that more physiological research has been carried out in connexion with acetylcholine than in relation to any other single chemical substance. The result of this intensive work has been to show that it is one of the most important chemical regulators of the functions of the body.

The clinical use of this interesting substance is attracting increasing attention. It is dangerous to give the drug intravenously, owing to its powerful action on the heart; and, since the blood contains a powerful esterase which breaks down acetylcholine in a few seconds, the substance has little action when given subcutaneously. Intramuscular injections have, however, been found to give satisfactory results. Acetylcholine has been used successfully to counteract post-operative paralysis of the intestine, and to a certain extent to relieve acute constipation. It is also of value in certain types of vascular disturbance associated with arteriolar spasm.

DESITIN OINTMENT

Desitin ointment (prepared by Desitin-Werk, Hamburg, marketed by Messrs. Coates and Cooper, Ltd., 94, Clerkenwell Road, E.C.1) contains cod-liver oil mixed with a basis of soft paraffin, zinc oxide, and talc. The rationale of the preparation is that a local supply of fat-soluble vitamins should promote healing.

NOISE AND HEALTH*

BY

DAN MCKENZIE, M.D., F.R.C.S.ED.

Can it be shown that noise inflicts definite injury upon body or mind? Is noise harmful, or is it only disagreeable? This inquiry deals with the effect of noise upon the general mind and body, and it leads us into several interesting regions of physiology and psychology. Physically, as we know, noise is a complex of irregular, conflicting, and discordant sound waves—a chaotic jumble. But this physical fact does not interest us much, since we are chiefly concerned not with physical things and vibrations but with living people. So we shall adopt the psychological definition that any sound becomes noise when it is unpleasant. But even this definition needs explaining. What makes a sound pleasant or the reverse?

First of all comes loudness, and we may say that sounds which are painfully loud are harmfully loud, either to ear or to brain, or to both. Here the disagreeable is undoubtedly harmful. Sound may be so loud as to be directly dangerous to life. I have suggested that some of the deaths from high explosives during the war were caused by the shock of sound waves imparting a violent succussion or shaking to the neurones of nerve centres. These, of course, are not the sounds we are ourselves concerned with at present. Our street and traffic noises do not directly endanger life.

Sound in Rhythm

There is, however, no need to dwell upon the particular element of loudness, since it is sufficiently obvious to everyone. But there is another disagreeable quality of noise, of which little or no mention is made, but which deserves notice—namely, that of arrhythmia or unexpectedness. In the matter of rhythm we enter a region of vital mechanics of which we know, even to-day, very little in so far as its fundamentals are concerned. Rhythm, meaning thereby the repetition of an event at regularly recurring intervals, is one of the modes by which time enters into the constitution of the universe as we know it. The question is, of course, the old one: is the element of rhythm imparted to the cosmos by our own mind or is it inherent therein? For the nerve processes themselves function by following a regular rhythm, which seems to vary in different forms of life, although it is fixed for each. In ourselves it seems, moreover, to vary with age; as in childhood it is, like the heart beat, more rapid than in old age, and the more rapid the individual rate the slower do outside events seem to move, as in the time machine of H. G. Wells. Or to put it another way, the more rapid the rhythm the more rapidly does the brain perceive and register impressions. To a child a day is as long and as eventful as a week is to an old man, for the mind measures time, not by the clock, but by its own happenings. That being so, the life of an ephemerid may seem to these insects every bit as long as ours. Their minutes may equal our days. This leads us to a fascinating subject, which, however, I may only glance at—namely, the function of rhythm in the arts, more particularly in those like music and poetry, which appeal to us exclusively or chiefly through our hearing.

Our particular interest in the subject proceeds from the close and intimate connexion that subsists between hearing and muscular movement, in consequence of which, among other effects, we dance and march in time to music. It is, by the way, a remarkable fact that just as there are people who are tone-deaf—that is, people who are devoid of the sense of pitch—so there are people who have no sense of rhythm. Sir Humphry Davy, for example, is said to have been quite unable to keep step in marching. The feeling for rhythm and that for pitch appear to be independent of each other. You may

have no "ear for music" like Sir Walter Scott, and yet be able to dance and to write verse, even verse rhythmically complex such as that in *Hail to the Chief*.

The point to which I wish to direct attention is that rhythmic sound, in which accent or recurring loudness coincides with our movement, as in marching to music, has the effect of preventing or postponing fatigue. For rhythm sustains and carries us onwards as on wings, the sound stimulus passing direct from ear to muscle in such a way as to render our movements automatic. And it is by a free surrender of ourselves to the almost hypnotic influence of musical rhythm that we become such automata. But the automatism, unlike that of true hypnotism, is only partial, seeing that the conscious mind remains fully aware of what is going on. Nevertheless it suffices to release the upper nerve centres from the need of supplying the succession of nerve stimuli necessary to initiate and sustain the muscles in their incessant movement. For continually recurrent acts of volition generated inside the brain there is substituted a periodic stimulus from without. In this way the mind is set free to enjoy the activity of a body that is no longer a burden upon its attention, a drain upon its energy.

From this analysis it would appear that, inasmuch as rhythmic movement in response to music can be continued for surprising lengths of time without leading to fatigue, it is the act of volition, the effort of willing, and not the muscular action itself, that most rapidly tires us. Thus rhythmic or expected sound works along with our natural impulses, and so gives us pleasure. Moreover, it can be made to harmonize with the natural muscular expression, in voice or movement, of our various emotions. We dance and are joyful; we are depressed and solemn as we listen to a funeral march; and in the old days of romantic war, fortresses were stormed to the tune of the "British Grenadiers."

Arrhythmic Sound or Noise

Rhythm pervades creation. But in noise we revert to chaos, a strange, unfriendly world, where every event grates upon our sensibilities. Now whether it is rhythmic or arrhythmic, musical or noisy, sound when it falls upon the ear passes direct to the muscles, exciting them to movement, the rhythmic pleasant, but the arrhythmic unpleasant. Arrhythmic, or as we call it "unexpected," sound startles us, disturbs us, irritates us, apparently because its irregular motion conflicts with the even motion of our being. And as it is a world in opposition, so it necessitates an irregularly recurring adjustment of our mental processes, together with a difficult effort of the will.

The Neuro-muscular Response to Noise

Now in describing the effect of unexpected noise upon the mind I said that "it startles us." Let us examine the phenomenon. Our first reaction to a sudden, sharp, unexpected sound is a muscular start, which places us in a *position of defence*. It is involuntary, and is so rapidly accomplished that our consciousness lags behind the dispositions made, just as it lags behind the events when we are involved in a motor or other accident. I have known a sudden loud bang bring a sleeper out of his bed and on to his feet before he became awake. Along with this "start" there are set in train the changes in the living body which we associate with the emotion of fear: the face pales; the limbs tremble; the male prepares to strike; the female to flee or to faint. In a word, a sudden loud noise arouses fear and all its effects. When sufficiently pronounced it is liable to be followed by what is called "shock," in which there is a general depression of vitality.

I do not for one moment mean to say that every noise we hear and object to startles us and is accompanied by fear and followed by shock. What I do say is that on many occasions a certain degree of those signs and symptoms is induced, and if one is exposed to their continuance a general feeling of fatigue and even exhaustion follows. If, as happens not infrequently, the start having passed, the moment of terror is associated with a moment of paralysis of the will, of hesitation, of oscillation of the

*Abridgement of paper read at the Conference of the Anti-Noise League, Oxford, July 14th, 1934.

body in and out of danger, then you get, for example, the pedestrian's contribution to the accident that may either kill or maim him. In a paper on health and noise this source of ill-health is not to be ignored; nor is the means of prevention to be slurred over. As to that, my own conviction is that the motor hooter should be entirely abolished. It is a deceitful instrument; it confers upon the driver a false belief that he can take risks, and it confers upon the public the false belief that it prevents accidents. I affirm that it causes more accidents than it prevents.

It is because of neuro-muscular disturbance that noise is tiring, and to people who are depressed in health, and particularly to those who are mentally unhealthy or ill-balanced, it may be dangerously tiring. But I know even healthy people who get a genuine migraine whenever they travel in a London tube train. Contrast the muscular reaction from rhythmic sound with that from noise. The one relieves the brain of its burden, lightens its work, and postpones fatigue; the other increases its burden, adds to its work, and so hastens and increases fatigue. There are, of course, great differences in the reactions of people to noise. Some few fortunate persons never seem to suffer any inconvenience at all, and they cannot understand what we are making all the fuss about. At the other extreme we find the hypersensitive; their patron saint is Thomas Carlyle, who once accused a carpenter, working in his house, of breaking the Decalogue with every stroke of his hammer. But between those two extremes there lies the great mass of ordinary men and women who are upset when noise is unusually loud, or when they themselves are out of sorts.

"Accustomed" Noise and Its Effect

We must now take notice of a criticism that is frequently levelled against anti-noise work. It is, that as we get accustomed to noise we learn to ignore it, and it then becomes innocuous. This statement is partly true and largely false: true that we learn to ignore it, up to a point; false that it is then innocuous. First of all—and here I appeal to general experience—the everyday noises we can tolerate when we are well and robust become unbearable when we are weary, depressed, or ill. This shows, what the physiologist can understand, that no nerve stimulus or impulse, once initiated, can be annulled.

Nerve energy is as indestructible as any other kind of energy. In noise, whether habitual or occasional, the ear receives and the ear transmits a hyperstimulus to the brain. If we are unaccustomed to it, reaction is manifest in an exclamation or a start—that is to say, in a more or less violent muscular movement—the consequence of the firing of an explosive train. If, however, we are accustomed to it, no reaction is visible, not because the nerve impulse is obliterated, but merely because it is side-tracked and dispersed among a number of subsidiary nerve centres. We are often quite aware of the effort necessary to inhibit or damp down such effects. As the visible reaction is less, so the secondary emotional effects are also reduced, and the phenomenon of fear and shock minimized. But the point is, that although the expenditure of energy is diminished it is not entirely prevented; there is still some waste, and as a result there may be fatigue.

The kind of noise that we most easily get accustomed to is continuous noise. Yet here again the rule of inevitable nerve impulse holds good. The result in this case is, that although the muscular response does not take the form of a start or a jump it nevertheless still manifests itself, this time in continued muscular tension. People whose occupation places them in positions of prolonged strain and responsibility know how restful it is to bring about a state of general muscular relaxation or slackening of fibre. Continuous noise renders such relaxation difficult of accomplishment. And once again you see how it leads to fatigue and even exhaustion.

So we may say that while noise does not induce organic disease, apart from deafness, it does induce a condition of functional weakness or disability, which is manifested in

exhaustion more or less severe according to: (1) the kind of noise; (2) the normal mental and constitutional make-up of the recipient; and (3) the state of his health at the time of his exposure. And this state of fatigue, though not itself disease, opens the door to disease.

Here we have one of those functional upsets that may lead to organic troubles. A healthy man in full vigour can stand ordinary diurnal street and traffic noise without suffering much, if any, damage. Not so, however, the hypersensitive and the weakly. Noise makes them irritable, and irritability is a sign of asthenia. I have heard robust men blame the hypersensitive because they suffer from such excessive nerve stimuli. But the problem is not to be solved by cursing these people. We may not all be hypersensitive, but there are very few of us who have not our hypersensitive moments, when noise, even moderately loud noise, becomes an intolerable irritant.

Noise and the Sick

There remains still to be considered an aspect of the subject which calls for direct and deliberate attention, and that is the deleterious effects of noise upon the sick. There are many diseases, mostly acute, in which quiet is of supreme importance; much more important, often than feeding. Yet, while minute dietetic directions may be given by their medical attendants, "quiet" is, as it were, understood. Take pneumonia, the septic infections, those forms of heart disease that are attended with insomnia, post-operative states, the melancholy troubles of nervous sufferers that form the borderland between sanity and insanity—these are only a few of the commoner diseases in which rest and sleep are not only desirable but imperative if the patient is to recover rapidly and smoothly. How do they fare to-day? Go round any of the London nursing homes and hospitals and ask the ward sisters, or become a patient and make the experiment yourself. I am sure if noise could be reduced, so would the consumption of sleeping-draughts.

It is true, no doubt, that much of the noise disturbance in nursing homes and hospitals comes in from the streets; but not all of it. Too much is generated within the hospital itself. Doors are banged, blinds rattle, lift gates crash, tin pails clatter, and a hundred other noises, great and small, are constantly occurring. This ought to be stopped. One of the ideals, too often forgotten, not only in the construction but also in the running of a hospital or nursing home, is the ideal of *quiet*. Apart altogether from the exclusion of an irritant, the positive value of a calm and soothing environment upon the subconsciousness of a sick person is inestimable. It helps to constitute the therapeutic atmosphere, and, by soothing the patient's apprehension, aids in the cure of his disease, as the old Greek physicians of the Aesculapian temples knew. Not only in health, but also in sickness the ideal of quiet is one that we modern physicians have lost. Should we not try to regain it?

R. Bénard and G. Thoyer (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, July 2nd, 1934, p. 1069) record a case of Addison's disease to demonstrate the respective actions of suprarenal cortical and medullary extracts in this malady. Primary treatment with the former caused rapid disappearance of the acute symptoms, particularly the asthenia, but had no effect on the blood pressure. Conversely, the medullary extract, which was then given, produced a marked durable rise in the arterial tension without influencing the asthenia, which reappeared in a few days, rapidly disappearing, however, on the resumption of the cortical extract. The patient has remained well and active for three months following the total cessation of treatment. A daily dosage of 1 gram of the cortical extract may be safely administered, provided that this maximum amount be attained by progressive doses and given in two divided daily doses. Bédère suggests that the extract does not act, as in thyroid medication, by supplementing an endocrine insufficiency, but by favouring a compensatory hypertrophy of the portions of the suprarenal parenchyma remaining healthy.

STATE OF THE PUBLIC HEALTH

SIR GEORGE NEWMAN'S REPORT*

It is sometimes forgotten by the public that the Ministry of Health concentrates the health services previously exercised not only by the Local Government Board but by the National Health Insurance Commission, and in the latter respect it controls a general practitioner service of enormous extent, engaging 16,500 practitioners in England and Wales, and entitling two-fifths of the population to medical benefit. In Sir George Newman's annual reports the two services—one represented by the medical officer of health and the other by the insurance practitioner—are not set opposite to one another, but are regarded as complementary. This British system has not only tradition but the balance of argument in its favour, and it derives noteworthy support from the Chief Medical Officer of the Ministry, who praises highly the medical service—which is a general practitioner service—afforded to the insured population. Not only is it vastly superior, he says, to the service given to the same class of people before the introduction of national health insurance, but the improvement in its content since the Act came in has been steady and continuous.

Three factors which are chiefly responsible for the rise in quality of the service are mentioned. In the first place, the Ministry of Health, in consultation with the Insurance Acts Committee of the British Medical Association, and, where necessary, with the approved societies, has sought to improve and simplify the conditions under which practitioners contract to provide advice and treatment. Secondly, the experience of the insurance medical service has developed in the members of the profession an appreciation, to an extent not previously attained, of their function as participators in a professional service for the public good. Finally, as a result of the progress of research, methods of treatment have been made available which, until recently, were unknown and unused, such, for example, as the treatment of diabetes by insulin, or of pernicious anaemia by liver extract.

THE "BOTTLE OF MEDICINE" HABIT

What the newspapers call a "story" might be written around the statistics of insurance prescribing. The people of England—the same does not apply to Scotland—are sometimes regarded as confirmed medicine drinkers. The bottle of medicine is looked upon by the working man, and still more by his spouse, as a necessary concomitant of medical attendance. Statistics show, however, that this habit of mind does not prevail to the same extent in all parts of the country. A table is given in the report showing, for every one of the 128 insurance areas in England, the average cost of prescribing per head of insured population in 1933. The list extends over a surprisingly wide area, from progressively thinking Manchester, where the average annual cost of medicines per insured person is very nearly five shillings, to "backward" Oxford, where it is below 1s. 10d., with London in a middle place, at just under three shillings. Even among districts in close geographical relationship there are surprising differences. Why should the cost in Gateshead be a shilling more than in Middlesbrough on the other side of County Durham, or in Essex a shilling more than in West Suffolk, or in Cambridgeshire a shilling more than in the Isle of Ely, or in Rutland 1s. 4d. more than in the adjacent Holland division of Lincolnshire? The population most thoroughly "physicked" is that of Lancashire and Cheshire, where in almost every household

in years gone by a regular item of expenditure was the doctor's bill, and an equivalent was demanded in the shape of something to be received not merely by the understanding but by the mouth. Traditional habit reflects itself in the prescribing statistics, and of the twenty most expensive prescribing areas eleven are in these two counties palatine.

It is easy to scoff at the bottle of medicine, just as Douglas Jerrold wrote of the pill as the daily bread of thousands. Sir George Newman pronounces a more considered judgement when he suggests that many practitioners give medicine in order to ensure that due regard is paid to their advice. It is not a question of sugar-coating the pill, but of using the pill itself as a cloak for counsel, which may be even more disagreeable to take. The prescribing doctor may have no greater faith in some of his medicines than the educated layman, but it is important that the patient should continue to come to him and heed what he has to say. Some doctors no doubt give a bottle of medicine fearing that they may otherwise lose their patients, but, at any rate where doctors work together with a reasonable understanding, there ought to be no difficulty on that score. A cantankerous patient may leave one doctor for another, but an equally cantankerous patient may at the same time leave the second doctor for the first, and possibly through these various transfers it may dawn upon the prescribed-for community at last that the important thing is not what they get made up at the chemist's, but the professional skill and care which is just as effective even when medicine is withheld.

THE CHIEF CAUSES OF SICKNESS

Another interesting sidelight on insurance practice is afforded by the result of the special investigation made of insurance medical records for 1933. A table is given showing the relative incidence of the chief causes of sickness for which insured persons consult their doctors. The number of practitioners whose records were investigated for this purpose was 825, and the insured persons for whom they were responsible numbered just over a million. Of the 77,180 cases attended during the year the largest number—nearly a quarter of the total—were cases of bronchitis, tonsillitis, nasal catarrh, and the common cold. Next came influenza, and after this the cases grouped respectively under diseases of the digestive tract, injuries and accidents, and lumbago and rheumatism. Only 548 of the cases (0.7 per cent.) were of tuberculosis in any form, and only 154 (0.2 per cent.) were of malignant disease. Indeed, the chief mortal diseases all take a low place in such a table. If these statistics are a reflection of insurance practice generally, out of every 100 patients he sees the practitioner comes across only about one having organic heart disease, one with anaemia, one with pneumonia, three with diseases of the genito-urinary system, five with skin diseases, six with diseases of the nervous system and special senses, and seven with abscesses, boils, and other septic conditions. "This demonstrates again," says Sir George Newman, "that morbidity figures have little direct relation in practice to mortality figures, and that while the general practitioner has on occasion to sign death certificates, his day-to-day work consists in the alleviation and cure of the less-fatal ills of life, and staving off, with considerable success, the end which is in store for each of us."

INFECTIOUS DISEASES

The decline in the mortality of infectious diseases during the last thirty years has been remarkable. In 1933 there were only 2,646 deaths in England and Wales from diphtheria, 1,948 from measles—the lowest on record—and 729 from scarlet fever, although the total number of cases

* The first notice of the Annual Report for 1933 of the Chief Medical Officer of Health appeared in the *Journal* of September 29th (p. 598).

of scarlet fever, (129,528) was the highest for thirteen years. The prevalence of small-pox (variola minor) was very much lower than in the previous year, the number of cases being 631, as compared with 2,039, and for the first time since 1921 the year included one week in which no case of small-pox was notified. The number of deaths classified to small-pox was two. Enteric fever showed a large decrease—1,758 cases as against 2,544 the year before. Reference is made to the small outbreak in the North Riding of what is called in the report "epidemic myalgia" or "epidemic myositis," as described by Dr. W. N. Pickles¹ under the name "Bornholm disease." This was the first occasion on which the disease has been recognized in this country, though there is no doubt that it has been observed previously both here and in other countries, and recorded under various designations suggested by its cardinal symptom.

TUBERCULOSIS AND VENEREAL DISEASE

In dealing with tuberculosis Sir George Newman mentions that it is twenty-one years since a Departmental Committee was appointed under the chairmanship of Mr. (now Lord) Astor to consider a general policy in respect to the tuberculosis problem. Nothing in the experience of the subsequent period casts any doubt on the soundness of the lines of action laid down by the Departmental Committee on which the present national scheme for dealing with tuberculosis is based. To no one special factor in public health can the credit for the general improvement be assigned, but statistics prove that all forms of tuberculosis are declining. Immediately before the setting up of the national scheme the annual total of deaths in England and Wales from tuberculosis of the respiratory system was 38,000; the figure for 1933 was below 28,000; and the diminution in the number of deaths from other forms of tuberculosis within the same period has been even more remarkable. Yet there is still much to be done. In particular, more attention needs to be devoted to the examination of contacts, and a second problem is efficient after-care for the patient whose disease has been arrested by effective treatment. The medical supervision of such a patient may be fully arranged for, but often his home surroundings and his work cannot be satisfactorily adjusted to his physical condition. One disturbing feature is the rise of mortality in the industrial areas of South Wales at the ages from adolescence up to 35 years. Many of the social and geographical features of coal-mining districts favour tuberculosis: such as the loss of sunlight in the deep and narrow valleys in which the villages are situated, the tendency to crowd in small rooms and halls, the lack of playing fields, and, sometimes, an unsuitable dietary.

The venereal diseases scheme has now been in operation for eighteen years. In syphilis it has been attended by a considerable measure of success. Careful inquiries show that the majority of persons infected with syphilis resort to treatment centres, so that the returns from these centres are strong evidence of the trend of the disease, and the 1933 figure for cases dealt with for the first time (21,525) was the lowest yet recorded. There is no evidence of decline in gonorrhoea, and the incidence is likely to remain unchanged until either a specific remedy is found for the disease or the proportion of infected women applying for treatment increases very materially.

NEW OUTLOOK ON THE CANCER PROBLEM

The number of deaths from cancer recorded last year was 28,837 for males and 32,735 for females. As compared with the previous year the death rate for males decreased from 1,495 to 1,490 per million living, and the rate for females rose from 1,524 to 1,559. Since 1920, the

latest year in which the crude rates were modified as the result of war conditions, no similar instance of a fall in rate by comparison with the previous year has occurred for either sex.

Sir George Newman discusses the changing outlook in cancer prevention. It was a natural tendency when cancer became a subject of active experimental research to assume that such research would culminate in the discovery of some method of causation which would indicate a road to prevention. Opinion is moving away from this conception, in Sir George Newman's view, and it is now thought that the change in the character of the cells which have undergone malignant transformation is no more than a pathological, perhaps even a physiological, reaction to one or more of a wide variety of stimuli, more or less peculiar to the different organs affected. Such a change of conception brings about a definite alteration in the attitude towards measures of control. Previously it was thought wiser to await the result of research than to attempt measures of control which might be not only mistaken but wasteful. Now it is held that the hope of putting into application some general or universal method of prevention may have to be replaced by realization of the need for minute investigation of the abnormal conditions which precede or determine the emergence of cancer, conditions which probably differ widely in their nature for different organs of the body. The compiler of this report is alive to certain signs of discontent at the apparently negative character of the results of laboratory investigations for the solution of the cancer problem, as well as the comparative ineffectiveness of treatment on the mortality rate. Such an attitude of mind may easily be exaggerated. Laboratory research may not have discovered the "cause of cancer," but it has greatly contributed to a better understanding of the nature of the disease, and if the results of treatment are poor, at any rate it is encouraging to know that if conditions could be so modified that a majority, instead of a minority, of patients underwent treatment at an early stage, a higher curability rate would be secured. "Nevertheless, it is difficult to avoid receiving an impression of growing dissatisfaction with the rate of progress. . . . A similar feeling seems to be manifest abroad as well as at home." The future will probably reveal a tendency, says Sir George Newman, to concentrate more on clinical research. Incidentally this will give to national and regional radium centres a wider sphere of action. They might, by co-operating with voluntary and municipal hospitals and with practitioners, extend their functions to cover those of diagnostic centres and centres for research into all forms of treatment. The part played by local health authorities in the campaign against cancer is also likely to become even more important.

VOLUNTARY AND MUNICIPAL HOSPITALS

We began by mentioning Sir George Newman's reference to the general practitioner; we may close with his reference to the other great sphere of non-official medical service—perhaps the technical term should be "non-provided"—namely, the voluntary hospitals. He pleads again, with his customary eloquence, for co-operation between local authorities and the governing bodies and medical staffs of these hospitals. In most areas it should be possible, as it certainly would be advantageous, for the local authority and the voluntary hospital to agree on an arrangement whereby all patients requiring a particular form of treatment—especially treatment requiring expensive apparatus or materials or highly specialized skill—should be admitted to a particular hospital. "There is no reasonable cause of war between them [the municipal and voluntary hospitals]; there is cause only for marshalling them together for a joint war against disease."

¹ *British Medical Journal*, November 4th, 1933 (p. 817).

MENTAL DISORDERS IN 1933

NUMBERS UNDER CARE

The twentieth annual report, Part I, of the Board of Control for 1933¹ shows that on January 1st, 1934, the number of persons suffering from mental disorder notified as under care in England and Wales was 150,266. This number is an increase of 1,491 during the preceding twelve months, which may be compared with the increase of 2,079 during the year 1932, or with the average annual increase for the five years ended January 1st, 1934, of 1,636. Were this diminishing rate of increase an index to the incidence of mental disorders in the general population favourable deductions might be drawn, but, as the Board points out, the yearly increases are merely the excesses of admissions over the combined deaths and discharges. Moreover, the numbers of admissions are affected by the amount of accommodation available in public mental hospitals, so that in some areas, notably in Lancashire, the true increase is larger than the Board's figures indicate because so many patients in need of active treatment have had to be retained in public assistance institutions for want of beds in mental hospitals.

Nevertheless, the Board is able to say that while the total number under care can never be a true index of the incidence of mental disorder, "the relatively small increase during the year affords some indication that the strain under which many have suffered has not been reflected in any increase in the number of new cases." The last few words are of significance, for it is the number of new cases, or, to be more precise, the ratio to the general population of the first admissions to mental hospitals and other institutions receiving "mental" patients, which furnishes the nearest approach to a true index of the incidence of mental disorder. This matter is not discussed in the present report, probably for lack of detailed information by the Board as to the movements—that is, admissions, discharges, etc.—of persons suffering from mental disorders in public assistance institutions and municipal hospitals. It may be noted in passing, however, that excluding these—and, after all, the county and borough mental hospitals receive over 80 per cent. of the whole mental patients in the country—the first admissions during 1933 showed an actual decrease of 629, there being 19,976 as compared with 20,104 in 1932.

Of the total of 150,266 patients under care on January 1st, 66,475, or 44.2 per cent., were males, and 88,791, or 55.8 per cent., were females. As to class, 8,428 males and 6,567 females were private patients, 57,383 males and 76,999 females were rate-aided patients, and 664 males and 225 females were criminal patients. The distribution of the 150,266 under care was as follows: 123,977, or 82.5 per cent. of the whole, were in county and borough mental hospitals and 230 in other premises of the local authorities; 2,422 in registered hospitals; 2,862 in licensed houses; 266 in naval and military hospitals; 830 in Broadmoor Criminal Lunatic Asylum; forty-two only were recorded as in nursing homes; 339 in private single care; 4,132 in outdoor relief; and 15,166 in public assistance institutions and municipal general hospitals.

It is interesting to note that while the rate-aided patients increased during the year by 1,692, the private patients decreased by 196 and the criminal patients by five. This actual decrease in the number of private patients—not merely a decrease in the rate of admission, notwithstanding the considerable separate provision now made for private patients in county and borough mental hospitals and the much-reduced fees charged by hospitals and houses solely for private patients—is significant of the hard times through which the country has been passing.

STATUS OF PATIENTS

Turning to the status of the 150,266 patients, 3,194 were voluntary patients, 226 temporary, and 146,846 certified. Of the voluntary patients no fewer than 2,015

were in county and borough mental hospitals, and of these 1,845 belonged to the rate-aided class, showing that this part of the Mental Treatment Act promises well. In "other premises" of the local authorities there were 230 more voluntary patients; in registered hospitals, 478; in licensed houses, 424; in private single care, eight; and in naval and military hospitals, one. Strangely enough, in nursing homes—that is, in nursing homes approved under the Mental Treatment Act—there were only thirty-eight voluntary patients under care on the first day of the year. The report does not give any indication of the numbers of nursing homes approved under the Act.

Of the temporary patients, of whom fifty-seven were males and 169 females, forty-six males and 116 females were in county and borough mental hospitals, the remainder being distributed as to thirty-two in registered hospitals, twenty-eight in licensed houses, and four in nursing homes. These numbers are disappointingly small, and show that, from whatever reason, the section of the Mental Treatment Act concerning temporary patients is being very inadequately worked. Thus the direct admissions during the year 1933 were 25,659 (males, 11,439; females, 14,220) and the proportions per cent. of these admissions arranged according to status were as follows: certified, 78.7; voluntary, 19.2; temporary, 2.1. Commenting on the fact, the Board says:

"Except in a few areas where special effort has been made the number of temporary patients in public mental hospitals remains disappointingly small. The total number of rate-aided temporary patients admitted during 1933 was 298. Private patients admitted on a temporary basis numbered ninety-nine. Excluding voluntary patients, the ratio of rate-aided to private patient admissions is ninety-seven to three. There is no reason whatever to suppose that the proportion of patients suitable for temporary treatment is any larger among private than among rate-aided patients. If the proportion of temporary admissions of rate-aided patients corresponded to the proportion among private patients, the total temporary admissions in the rate-aided class would have been approximately 3,280 instead of an actual total of 298. In other words, the non-volitional paying patient has about eleven times as good a chance of admission without certification as the rate-aided patient. An analysis of cases shows that only a fifth of the temporary admissions require to be certified subsequently, and it follows that in round figures 2,400 persons were certified in 1933 who might, if advantage had been taken of temporary treatment, have escaped certification altogether."

The report also shows that the procedure was not used in thirty-four of the county and borough mental hospitals, and was confined to less than 5 per cent. of the direct admissions in fifty-two hospitals, whereas at one or two named hospitals the proportions were from 10 to 17 per cent. and at one no less than 42 per cent.

MOVEMENTS OF PATIENTS

Owing to the absence of detailed information concerning the movements in public assistance institutions, etc., particulars of the patients in such institutions are not included in the Board's report on admissions, discharges, deaths, etc. Bearing this in mind, the following extracts show that the direct admissions to mental hospitals (25,659) gave a ratio of admissions per 10,000 of the population of England and Wales (aged 16 and upwards) of 8.47 (males, 8.01; females, 8.87), a decrease on the previous year of 0.02. If the voluntary patients are discounted, the ratio of admissions is 6.83 per 10,000 of population.

During the year under review 14,920 patients (males, 6,254; females, 8,666) were discharged or departed from statutory care as recovered, relieved, or not improved. Of these, 8,520 were discharged as recovered, yielding a recovery rate, calculated on the direct admissions, of 33.2 per cent. (31.7 for males, 34.5 for females). Patients discharged as relieved numbered 5,103, and as not improved 1,297. Deaths during the year numbered 9,408 (males, 4,385; females, 5,023), giving a death rate, calculated on the average number daily resident (129,712), of 7.3 per cent. as compared with 7.6 for the previous year.

¹ The Twentieth Annual Report of the Board of Control for the Year 1933. Part I. 1934. London: H.M. Stationery Office. (2s. net.)

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THE FINDINGS OF EYE EXAMINATIONS

AN ANALYSIS OF 10,000 CASES

BY

N. BISHOP HARMAN, F.R.C.S.

CHAIRMAN OF THE OPHTHALMIC COMMITTEE OF THE B.M.A.

At the recent Annual Representative Meeting of the British Medical Association, in presenting the report of the Ophthalmic Committee, I gave some figures of the findings of the examination of the eyes of a number of patients who had obtained their ophthalmic treatment through the medium of the National Ophthalmic Treatment Board. There have been many inquiries about those figures, and, since some new facts have been gathered, a fuller record of them may be of value.

The investigation arose from a desire to get detailed information of the conditions found in a fair average sample of the patients seen through the Board's organization all over the country. At different times figures have been obtained from amongst hospital patients; and some ophthalmic surgeons gave us returns for their private patients, but it was thought by some that these returns might not give a fair indication of the conditions for which patients, many of them members of approved societies, sought eye treatment. Some averred that what these latter people needed was "just glasses"; and they said in effect, Let them choose what suited them with such assistance as a well-meaning optician might be able to afford them, and their need would be met; others asserted that the opticians were now so well trained and tested by their several trade organizations that they were quite capable of discovering and dealing with the cases that were what they termed "simple refractions," and of referring cases other than these—that is, of disease or defect—for the more expert examination of the ophthalmic surgeon.

A number of ophthalmic medical practitioners working in different parts of the country who were in the habit of seeing considerable numbers of patients through the Board were asked to keep records of the patients examined by them. To enable the records to be compared, cards were issued to these doctors giving a short but sufficient classification of the conditions which were likely to be found, with directions as to the manner of entering the returns. There was to be no selection of the cases;

all received through the Board were to be recorded. By this date returns of 10,085 patients have been received from forty-seven doctors, who practise in such parts of the country as give a fair representation of the country generally. I wish here to express my thanks to those doctors who took so much time and trouble in making the returns; the purpose of the inquiry may not have been evident to them when the request for information was made, but they will see the results of their labours in this paper.

The returns were handled by a competent statistician, and the following tabulation was obtained:

Total No. of cases analysed	10,085
No. of doctors supplying records	47
No. of cases of error of refraction only	6,434 or 64.09%
No. of cases of error of refraction plus one or more "other eye conditions"	2,940 or 29.15%
No. of cases without an error of refraction but with one or more "other eye conditions"	580 or 5.75%
No. of cases with no appreciable eye defect	101 or 1.00%

In the cases included in the above analysis the following types of error of refraction or other eye conditions were found:

Errors of Refraction

Hypermetropia	in 1,357 cases or 13.45%
Hypermetropia and/or astigmatism	4,481 " 44.43%
Myopia	387 " 3.83%
Myopia and/or astigmatism	1,857 " 18.51%
Odd eyes	351 " 3.48%
Presbyopia	3,743 " 37.11%
Mixed astigmatism	235 " 2.33%

Other Eye Conditions

Diseases of conjunctiva—lids and/or sac	701 " 6.93%
Diseases of cornea—all forms	237 " 2.35%
Diseases of uvea—all forms	514 " 5.09%
Optic neuritis or atrophy	105 " 1.04%
Cataract—all forms and stages	806 " 7.99%
Glaucoma—all forms and stages	72 " 0.71%
Myopia—over 5 D in both eyes	311 " 3.08%
Squint—latent or patent	632 " 6.26%
Constitutional diseases or ocular affections	489 " 4.84%
Bad conditions of work	35 " 0.34%
Injuries or effect of injuries	71 " 0.70%
Other material conditions	263 " 2.60%

EYE CONDITIONS OTHER THAN ERRORS OF REFRACTION

The major finding arising out of the figures is the fact that one in every three of the patients seen had some defect of their bodies or their eyes other than an error of refraction. Such a finding may seem startling to those unfamiliar with eye work, but it is within the ordinary experience of ophthalmic surgeons. Tired eyes and inability to see easily or clearly mean to most people a need for glasses; it is a natural enough idea, and the assumption may be right or it may be wrong. Only an examination by an expert can determine the point. In effect the returns show that for most the assumption is true, but for the many it is untrue. Similarly, a patient sometimes cheerfully explains that an eye that is slightly red and sore is so because "a fly got into it two or three days ago," whereas an appropriate examination shows a deposit of fine dewdrop precipitates inside the eye on the back of the cornea, and proves that no trivial external irritant, but some serious internal sepsis, is the cause of the trouble.

The category of eye conditions other than errors of refraction is plain evidence of the seriousness for the need of expert examination. Conjunctivitis or sore eyelids are a real handicap to the worker; the discomfort caused is not conducive to good work; personal appearance is poor; whilst the risk of a septic lachrymal sac to workers exposed to flying particles, as lathe-workers, hammermen, or road menders, is common knowledge.

Diseases of the uvea, which include iritis, cyclitis, choroiditis, and retinitis, are dangerous conditions. Not only do they present, if unchecked, grave risks to the sight, but they indicate in the majority of cases some constitutional trouble needing attention. So one could comment upon the other items of the list: optic neuritis or atrophy, cataract, glaucoma, and so on. Optic nerve trouble may in its onset suggest no more than the want of glasses, and glasses may indeed help, and perhaps satisfy the patient with some improvement in his sight for a time; yet failure in diagnosis may mean irrecoverable loss of precious time in discovering and attacking the basic condition responsible for the nerve trouble. Cataract may undoubtedly be delayed in its progress by early treatment, change of work, of regime, and so forth, therefore its recognition in the earliest stages is needful.

The dread disease of glaucoma, the probable cause of Milton's blindness, is almost always associated with some change in refraction, for which new glasses are appreciated; but these may be a dangerous snare if the presence of the disease be unrecognized. Latent squint is a prolific cause of chronic eyestrain, headache, and invalidity; handled well the relief may be magical, mishandled the aggravation may be serious.

Constitutional diseases—*independent of disease setting up any of the preceding ocular conditions*—are accountable for apparent asthenopia, but the tired eyes are often not at fault; it is the general laxity of tone. The dyspeptic is a common complainant of tired eyes. To order glasses and nothing else for a man suffering from a dilated stomach, with all its attendant disabilities, is to add insult to injury, or to display a naïve belief in the uplifting effect of glasses! Among the "other material conditions" are included twenty cases of tobacco amblyopia—a remarkable finding in these days of costly tobacco and spirits. The number (3,743) and the percentage (37.11) of cases of presbyopia—that is, of patients over about 45 years of age in need of glasses for near work—only shows that the majority of the patients examined were of the young and early middle-aged workers—just those from whom we expect the best work, for whom good eyesight is most important, and for whom we ought to provide the best eye treatment.

A CONTROL

Is it possible to check these figures in any way? Can we find some sort of yardstick which will act as a control? There is happily one finding by which we are able to secure an effective control. Certain factors of the cases seen through the N.O.T.B. scheme are recorded and

filed at the office of the Board. One of these shows how many patients are reported by the ophthalmic medical practitioners as not requiring glasses. The matter is naturally of importance from the dispensing optician's point of view. Hence the keeping of the record. Mr. Harwood, the secretary of the Board, has had these figures analysed for the twelve months from September 1st, 1933, to August 31st, 1934. There were brought into account 68,047 cases, of which 4,115 were found not to require glasses, or a percentage of 6.05. Among the cases brought into this particular statistical inquiry the number of cases for whom no glasses were ordered were those marked as "other eye conditions" (580, or 5.75 per cent.), and those in whom no appreciable eye defect was found (101, or 1 per cent.)—a total of 681 cases, or 6.75 per cent. There are, then, these two returns:

Of 68,047 cases seen by 821 doctors 4,115 did not require glasses, or 6.05 per cent.

Of 10,085 cases seen by forty-seven doctors 681 did not need glasses, or 6.75 per cent.

One could not expect a closer approximation in two such returns. The control thus afforded is strong evidence for the trustworthiness of the reports of the medical conditions found among the cases which have been brought into this analysis—if, indeed, such confirmation of its trustworthiness be needed.

THE LESSONS

So far the lesson of the returns is the need for expert examination of the eye. But there is another lesson to be learned. There are those who believe that the examination of patients' eyes by sight-testing opticians is both a satisfactory and an economical proposition. The comparison of these medical returns with certain other returns shows that neither of these beliefs is borne out by the facts known.

When I received the first figures of this analysis, which were presented to the Representative Meeting in July, and learned that no less than 36 per cent. of the cases seen needed attention other than the provision of glasses, I sought to find out what proportion of cases seen by sight-testing opticians were similarly reported, and referred by them to ophthalmic surgeons for further examination. At first there was a remarkable difficulty in getting any answer to this simple question. No one knew, or, knowing, would tell. The most that could be got by way of answer was an expression of opinion that on the average not more than 10 per cent. were so referred for further examination. That figure I quoted in July; since then some definite information has been obtained. Certain approved societies have been good enough to supply actual figures of referred cases during 1933 or 1933-4. I may not give the names of the societies, but they are weighty. They represent several millions of insured persons, and they provided ophthalmic benefit to several thousands of their members. In these returns the percentage of cases referred by the sight-testing opticians to ophthalmic surgeons ranges from 1 to 4.6; the average is 3 per cent.

There is, then, this astonishing comparison: in a series of patients examined by ophthalmic surgeons 2,940 cases, or 29 per cent., proved to be cases other than errors of refraction alone, and no fewer than 580 or 5.75 per cent. cases of other conditions without any error of refraction; yet the percentage of cases referred "for further examination" by the opticians, who profess only to be able to deal with errors of refraction, was only 3.

CONCLUSION

The conclusion is irresistible. The opticians did not recognize the defects present in the eyes of the patients seen by them, or if they did recognize them they did not report them for medical examination.

The corollary is this. Patients who go to opticians to have their sight tested do not get what they want, or they do not get what they ought to get. Such a finding is conclusive of the proposition that an examination by an optician is uneconomical, and conversely that

approved societies or others who are responsible for advising patients to seek eye examination cannot in the interests of these persons do other than adopt the only economical method—that is, by securing examination by competent ophthalmic medical practitioners.

There is nothing new in this conclusion. It has been the finding of three separate Government inquiries:

"We are of opinion that it would be undesirable and a positive danger to the public for Parliament to pass any measure which might convey the idea that an optician, who is a person qualified to provide glasses prescribed by medical men, is further himself competent to examine the eyes of patients and to prescribe glasses for the correction of errors of refraction." (Departmental Committee on the Causes and Prevention of Blindness, 1922.)

"It was admitted even by medical witnesses who appeared before us to support the case of the opticians that other things being equal it would be preferable for the purpose of testing eyesight to have recourse to a properly qualified eye specialist rather than to the most highly qualified optician." (Royal Commission on National Health Insurance, 1925.)

"... we are satisfied that the number of cases in which the patient may miss the opportunity of remedial treatment if the case is not handled by an oculist is by no means negligible." (Departmental Committee on the Optical Practitioners Bill, 1927.)

But this is the first time that the conclusion of the true economy of a medical examination of the eyes has been based upon figures of such volume as to compel attention.

British Medical Association

SUPPLEMENTARY REPORT OF INSURANCE ACTS COMMITTEE, 1933-4*

MORTGAGING OF MEDICAL PRACTICES AND ARRANGEMENTS FOR PRACTITIONERS ON RETIREMENT FROM MEDICAL PRACTICE

(Continuation of paras. 14-15 of Annual Report)

129. While the Committee regrets that it is not yet in a position to submit any report on the subject to this Conference, the matter is receiving its careful attention.

CERTIFICATION

Fitness for Alternative Occupation

(Continuation of para. 32 of Annual Report)

130. Further consideration is being given by the Committee to the subject-matter of Recommendation F of para. 32 of the Annual Report, as to whether, in order to safeguard the professional secrecy aspect the point dealt with in the recommendation could be effected by other means than that proposed in the recommendation, and it is hoped to submit a verbal report upon this matter to the Conference.

CHARGING OF FEES TO INSURED PERSONS— CLAUSE 7 (3) OF TERMS OF SERVICE

(Continuation of paras. 35-39 of Annual Report)

131. Para. 39 of the Annual Report contains the Committee's recommendation to the Conference to approve an altered form of Clause 7 (3) of the terms of service, subject to one month being the period within which a claim by an insured person under the terms might be allowed. The Committee now understands that there is little likelihood of any amendment at all of Clause 7 (3) if objection persists to the substitution of three months for one month. It will be appreciated that the principal desire of the Committee for the amendment of Clause 7 (3) was to ensure that it should apply (where a practitioner made a bona fide mistake) equally to cases where the insured person was on the practitioner's list as to cases where the patient was not on the practitioner's list, and so remove the former from the category of cases to be dealt with under the disciplinary machinery of the Regulations. Continued opposition to the substitution of three months for one month as being the period within which the claim by an insured person may be allowed will result in the clause remaining, as it is, applicable only to those cases where the patient was not on the doctor's list.

*The Annual Report of the Committee appeared in the *Supplement* of August 18th, 1934.

This, the Committee is convinced, would be detrimental to the interests of practitioners. At the same time the Committee is of opinion that the period of three months is too long for the purposes involved.

132. In these circumstances the Committee recommends the following variation of Recommendation H appearing in para. 39 of the Annual Report:

Recommendation O: That the following words in the preamble of Recommendation H be deleted: "subject to one month being the period within which a claim by an insured person under the clause may be allowed."

PRESCRIBING

Method of Ordering "Specially Expensive Drugs and Appliances"

(Continuation of paras. 47-50 of Annual Report)

133. Representations have been received by the Committee since the publication of the above-mentioned paragraphs of the Annual Report as to the inconvenience which rural practitioners will experience as a result of the ruling by the Ministry referred to in para. 49, that it was not open to a "dispensing doctor" to order on an official form any "specially expensive drug or appliance." The Committee understands that a practitioner who supplies to a patient any "specially expensive drug or appliance" and furnishes to the Insurance Committee a prescription form in connexion therewith is paid not only the ingredient cost but a dispensing fee, in accordance with the Drug Tariff. It would appear, therefore, that although the practitioner suffers a certain inconvenience in not being able to secure the dispensing of a prescription in the first case by a chemist, he is recompensed by the receipt of a dispensing fee.

Drugs and Appliances Administered in an Emergency

134. On occasion the attention of the Committee has been drawn to the absence of any provision for payment to a practitioner for drugs or appliances supplied in emergency cases. While the emergency scale of fees provides for a payment to a practitioner for treatment given, he receives no specific payment for the cost of any drug or appliance supplied. The Committee is of opinion that the fee for emergency treatment for a patient not on a practitioner's list has always been considered adequate to compensate a practitioner for the cost of any drugs or appliances he might be called upon to provide in an emergency other than any "specially expensive drug or appliance."

PROPOSED AMENDMENT OF RULES MADE UNDER ART. 33 (3) OF REGULATIONS—MEDICAL SERVICE SUBCOMMITTEE CASES

135. The Ministry informed the Committee that it had received a proposal for an amendment of the Rules under Clause 33 (3) of the Regulations, concerning the service of notices thereunder. The proposal arose out of a case in which one of the parties to a hearing could not, it was contended, be found owing to temporary changes of address, and was known not to have been found at the time of the hearing, which, consequently, could not proceed in the absence of such party. The amendment would take the form of an addition to Rule 6 (1) (c) of the rules governing the procedure of Medical Service Subcommittee matters. The existing Rule 6 (1) (c) is as follows:

6. (1) (c). Except in cases dealt with under the last preceding paragraph without a hearing the clerk shall give to both parties and to the secretaries of the Panel Committee and of the approved society (or, if the society is one with branches, of the branch of the approved society) of which the insured person is a member not less than seven days' notice of the meeting at which the case will be heard;

to which it is proposed to add the following:

Where any notice or other document is required or authorized by these rules to be sent by or on behalf of the Committee it shall be sufficient compliance with the rules if the notice or other document is sent by post or delivered to or at the address last notified to the Committee, unless the Committee is satisfied that the non-receipt of the notice or other document by either party is not due to any fault on the part of the addressee.

The Committee recommends:

Recommendation P: That the Conference approves the addition to the above wording to Rule 6 (1) (c) of the rules made under Article 33 (3) of the Medical Benefit Regulations.

NATIONAL INSURANCE DEFENCE TRUST

Support for Practitioners engaged in Dispute with Workmen's Committee

136. In an industrial area, hitherto, the medical attendance upon the workmen's dependants has been provided by means of an agreed monthly payment per worker to the practitioners of the area made through the Workmen's Medical Committee, and by payments made by that committee to an ophthalmic specialist, and an ear, nose, and throat specialist.

137. Trouble arose recently because the Workmen's Committee, desiring to appoint a specialist consultant, proposed to reduce the payments to the general practitioners so as to provide a salary for the new appointee. It was felt that if the attempt was successful it would be copied in other such localities throughout the country. In these circumstances, therefore, the Association has pledged its support to the local profession in this dispute. The general practitioners of the area have refused to accept a reduction in their remuneration and the Workmen's Medical Committee have terminated their "contracts." The ear, nose, and throat specialist and the ophthalmic specialist have given notice to terminate their appointments, so as to act in conjunction with their general practitioner colleagues.

138. The Workmen's Medical Committee introduced into the area a general practitioner whose name was placed on the Insurance Committee's Medical List, with the result that in a very short time a number of insured workmen transferred from the lists of local practitioners. This practitioner, who had apparently taken the post unwittingly, after an interview decided to act in harmony with the local profession and leave the district. As he had incurred certain expenditure, it was decided to assist him by defraying the cost thereof. The trustees, being of opinion that the interests of the insurance practitioners of the area are at stake, have defrayed the costs involved.

H. GUY DAIN,
Chairman.

THE INSURANCE MEDICAL SERVICE WEEK BY WEEK

Practitioner's Residence—Distance from Practice

An Insurance Committee has had under consideration the following resolution received by the Panel Committee:

"The Panel Committee views with concern the increasing number of practitioners who are not living within a reasonable distance of their practice, and considers that when no resident partner or assistant is available a deduction of 5 per cent. should be made in the practitioner's remuneration."

The question of what is reasonable for the purposes of this proposal having been discussed between the two committees, it was decided by the Insurance Committee that the resolution should be adopted and that action should be taken under the terms of the distribution scheme to relieve from emergency night calls to insured persons on the list of other practitioners any practitioners found to comply with the conditions of the resolution, and to make a deduction of 5 per cent. from the sums credited to such practitioners. A distance of two miles by road from the surgery is to be regarded as a reasonable distance for the purposes of the recommendation, and the necessary amendments to the schemes to give effect to these proposals have been submitted to the Minister for approval.

Catheters

A question has been raised as to whether a catheter and shield ordered by a practitioner is an appliance forming part of medical benefit. It has been ascertained that the actual appliance supplied was a special suprapubic catheter with rubber shield required after an operation involving an opening of the abdomen. The opinion of the Ministry of Health has been sought, and the Department has expressed the view that the article cannot be regarded as available as part of medical benefit.

Altered Prescriptions

Information has reached an Insurance Committee pointing to the improper alteration of certain prescriptions dispensed at a branch establishment of a firm of chemists. The alterations had the effect in each case of increasing the quantities of medicaments ordered by practitioners. The prescriptions were not restricted to those issued by any practitioner or to a few insured persons. A number of practitioners have been interviewed, and have stated that the changes were neither made by nor authorized by them. A representative of the firm was seen, and it was decided that the firm must be held responsible for the alterations, and that it should be requested to furnish a full report on the result of the investigations which it was making. After an exhaustive inquiry the firm has been unable definitely to identify the person responsible for the alterations, but the evidence available points to one or both of two members of its staff as the culprit(s), and in the circumstances the engagements of the two employees concerned have been summarily terminated. The firm has offered to reimburse the Chemists' Fund by a specific amount by way of reparation, and after a close examination of all the prescriptions submitted in respect of the period during which the irregularities have occurred, the Committee is satisfied that the amount offered is not less than the amount overpaid. The Committee has accepted the offer of reparation, being satisfied that the firm was in no way party to the irregularities.

Anti-diphtheria Toxin—Improper Charge

We reproduce below, substantially in full, the report of a case which was the subject of a prolonged investigation by the Medical Service Subcommittee of the London Insurance Committee. It concerns primarily the improper charging of fees for treatment given to an insured person, and falls into the category of those cases in which a practitioner starts upon the treatment without being aware of the fact that the patient is an insured person.

The case, however, is of sufficient interest because the actions of the practitioner with regard to the supply of antitoxin by the local authority form such an important feature of the case. The report of the Medical Service Subcommittee, which was adopted by the Insurance Committee, is as follows:

Medical Service Subcommittee's Report

The insured person, who is employed as a dressmaker, and who had removed to an address outside the area of the practice of her original insurance practitioner on October 1st, 1933, was taken ill on October 27th. Her father took her to the practitioner concerned in this case, who attended her as a private patient, charging 3s. 6d. on that day and again on October 29th. On the latter day the practitioner suspected diphtheria, instructed the insured person to go home to bed, and promised to call on October 30th. This he did and gave an injection. On that day a message was sent to the insured person's original doctor, and that practitioner sent his partner, who examined the insured person and advised that she should arrange to transfer to the list of the practitioner already in attendance, on the grounds that that practitioner was already attending her, and, further, that her new address was outside the radius of the original practitioner's practice. When the practitioner called on October 31st, he was asked to accept the insured person on his list, but the medical card could not be produced, as the family had so recently changed residences and the card was temporarily mislaid. It was, however, found and given to the practitioner on November 1st. Three injections in all were administered, and the mother of the insured person informed us that she was not told that they were expensive until the third was being administered; when she was given to understand that each injection would cost about 15s. The account submitted by the practitioner in respect of private treatment amounted to £6 7s. 6d. As rendered, it purported to cover the period October 30th to November 13th, but was stated at the hearing to cover the period October 30th to November 2nd, 1933, inclusive.

The practitioner informed us that his fee for the first two consultations was paid on the spot. On October 30th he made four visits and gave two injections. On October 31st one injection was given. The cost charged to the patient for the first injection was 30s., that for the second 34s. 6d., and for the third 35s. His fees for visits were: October 30th (2) 7s., October 31st (2) 7s., November 1st (2) 7s., and November 2nd (2) 7s. The cost of the visits was £1 8s., and that of the antitoxin £4 19s. 6d., and the total, therefore, £6 7s. 6d. It was within the practitioner's recollection that he explained the high cost of the treatment to the insured person's mother before the first injection was given, and that no objection on the ground of expense was made. When objection was taken it was his impression that it was because the insured person's father objected to this form of treatment. The practitioner said, further, that it was his recollection that the medical card of the insured person was not given to him until November 2nd, after the consultation on that date. Questioned with regard to the injections the practitioner said he regarded them as imperative. He obtained the first batch of antitoxin from the local authority, and he knew that he could have it free of charge for a necessitous case, but he said he did not regard the insured person as coming within that category. The practitioner added that the usual interval between injections was eight to twelve hours. The throat of the patient showed badly on October 29th, when, although there was no definite membrane, the tonsils were much enlarged. A swab taken on October 30th proved to be negative. Each of the three injections consisted of 16,000 units of anti-diphtheria toxin. After he had used the antitoxin supplied by the local authority he next used some which had been left at the surgery by his predecessor. The practitioner at that stage expressed his willingness to withdraw, as an act of grace, the account rendered by him to the insured person, and promised that the receipted account for the payment to the local authority, or, failing that, the counterfoil of the cheque by which the account was settled, should be forwarded to the committee.

On May 11th, 1934, the practitioner's secretary communicated with the committee forwarding "the account and receipt in respect of some of the anti-diphtheria toxin supplied on October 30th, 1933, and administered to" the insured person. The practitioner had previously informed us that the price he had paid for the antitoxin was 2s. 6d. for 2,000 units, but it was clear from the account that the total charge for three tubes of 8,000 units each of diphtheria antitoxin was 19s.—that is, 6s. 4d. per 8,000 units instead of 10s. per 8,000 units as previously indicated by the practitioner. It was observed, however, that the receipt given by the local authority was dated May 11th, 1934—that is, the day following the original hearing by us. Inquiries were

therefore made of the local authority by an officer of the committee, and as a result it was clear that the antitoxin had been regarded as having been supplied for a necessitous case, that no account had been rendered to the practitioner, and that no account would have been rendered to him but for the fact that he, or his representative, on May 11th, 1934, called at the office of the authority and insisted on paying for the antitoxin. It is but fair to the practitioner to state that the confirmation of the telephone order for the antitoxin, sent three weeks later, indicated that he desired the cost of the antitoxin to be charged to his account. One phial of 8,000 units had been supplied on October 30th, 1933, and two further phials on October 31st.

At our hearing on July 12th, 1934, the foregoing facts were recapitulated to the practitioner, who adhered to his statement that each of the injections consisted of 16,000 units, and suggested that on the first occasion he used one phial containing 8,000 units obtained from the local authority and another phial containing a similar amount which he had discovered at his surgery. He stated, however, that at the surgery he discovered five phials containing 8,000 units, and we find it difficult, therefore, to understand the necessity for his obtaining two further phials from the local authority on October 31st, when, according to his own statement, he had sufficient at the surgery to provide two more injections of 16,000 units each.

Our medical members advise us that three injections of 16,000 units each of anti-diphtheria toxin in a case of this nature would be a most unusual dosage. We think that the practitioner was lacking in candour when, having discovered on May 10th or 11th, 1934, that no payment had been made to the local authority in respect of the antitoxin supplied for the insured person, who, as he had now become aware, fell within the category of a necessitous case, he insisted on paying an account which otherwise would not have been rendered to him, and then forwarded the receipted account to the committee in an endeavour to substantiate the charges (30s., 34s. 6d., and 35s.) made in respect of the three injections instead of informing the committee that no payment had been made for the toxin and therefore his charges to the insured person had been made in error. We cannot but record our doubts as to the bona fides of the practitioner in rendering an account to the insured person—a dressmaker—amounting to £6 7s. 6d. for treatment covering a total period of four days.

We find the following facts to have been established: That the insured person voluntarily obtained and paid for treatment as a private patient on October 27th and October 29th, 1933; that on October 31st, 1933, application was made to the practitioner for acceptance as for an insured person; that the practitioner received the insured person's medical card on November 1st, 1933; that an account amounting to £6 7s. 6d. was rendered by the practitioner in respect of the period October 30th to November 13th; and that the practitioner states that the account actually applied to the period October 30th to November 2nd, 1933, only, although application for treatment as for an insured person had been made prior to the expiration of that period.

The Insurance Committee found that the practitioner committed a breach of the terms of service in demanding fees in respect of treatment which he was required to give under the terms of service. The practitioner had offered to withdraw the account submitted and the committee was strongly of opinion that he should do so, adding an expression of censure and a recommendation to the Minister that a sum of £20 should be withheld from his remuneration. The practitioner has the right of appeal to the Minister against this decision.

DERBYSHIRE PANEL BENEVOLENT AND SCHOLARSHIP TRUST

The Management Committee of the Derbyshire Panel Trust has decided to renew, for the second year in succession, a scholarship of £50, tenable at Trinity College, Dublin, to Miss May McGinnis, daughter of the late Dr. McGinnis of Brimington, near Chesterfield; and also to award a scholarship of £50 to Mr. C. W. Lawson, son of Dr. W. W. J. Lawson of Whitwell, Derbyshire, tenable at the Medical School of the University of Sheffield. These scholarships are awarded to sons and daughters of Derbyshire insurance practitioners, preferably but not entirely for medical education, and are renewable year by year, subject to favourable reports from the educational authorities. In addition to the scholarships benevolent grants are available for Derbyshire panel practitioners and their dependants.

PROVIDENT SCHEMES FOR MIDDLE-CLASS PERSONS

The British Medical Association at the Annual Representative Meeting in July last, recognizing the need for provident schemes for persons within defined income limits, approved the following Notes on the Establishment and Development of Provident Associations, together with Draft Memorandum and Articles of a Provident Association, as being in conformity with the Hospital Policy of the Association, and suitable for submission as a basis for consideration by the local profession in any area, subject to the necessary variation of scales of income limits, scales of medical fees, and rates of contribution:

ESTABLISHMENT AND DEVELOPMENT OF PROVIDENT ASSOCIATIONS

1. The aim of a Provident Association as defined in this memorandum is to organize and develop a scheme for persons of the middle and professional classes on a mutual insurance basis, and, in return for a definite premium, to offer to persons of defined income limits financial assistance in respect of:

(a) the cost of co-operating institutional accommodation in private beds attached to voluntary or council hospitals or in beds in nursing homes, this cost to include all nursing, use of operation theatre, x-ray plant, laboratory, and other ordinary institutional equipment; and

(b) the cost of associated professional services.

It is recognized that many Provident Associations will desire to offer a "grant-in-aid" towards the cost of these services to persons above the defined income limits, or to persons of all incomes, but this type of Provident Association is not referred to in this memorandum. It is essential that a "grant-in-aid" scheme should be a separate legal and financial entity from a scheme offering cover as distinct from a "grant-in-aid," although the administrative machinery can be identical for the two types of scheme.

The grant-in-aid schemes may find it desirable to include in their list of benefits contributions towards the cost of nursing home, hospital and surgical treatment, specialists' consultations, anaesthetists' fees, x-ray examination and treatment, radium treatment, pathological examinations, and electrical and massage treatment. The Articles of Association attached to this memorandum could be utilized in connexion with grant-in-aid schemes, subject to the necessary amendments to Clauses 39, 40, and 41. The Advisory Committee referred to in paragraph 11 of these Notes would be in a position to suggest model scales of contributions and benefit to Provident Associations desirous of establishing grant-in-aid schemes.

2. Provident Associations should be organized on an insurance basis, and care should be taken to maintain them actuarially sound. This implies that until a wide experience of schemes of this kind is available members' contract rates of contribution and scales of charges for professional services and institutional accommodation must rest on a temporary basis. The risk undertaken by an association should be a purely financial one, and there should be a definite maximum liability on Provident Associations in respect of each year of membership.

3. The schemes of Provident Associations should be considered and developed in the closest association with the organized medical profession.

4. The schemes of Provident Associations should not be restricted to a limited group of persons, other than as defined in this memorandum and model scheme, nor should they be organized in relation to a restricted group of medical practitioners. As far as possible they should offer to the member free choice of approved institution and free choice of medical practitioner. Patients should be admitted to the benefits of the scheme only on the recommendation of a private practitioner, except in cases of emergency.

5. The medical profession should be remunerated for services to persons within the defined income groups on the basis of a schedule of charges agreed between the Provident Association and the medical profession.

6. Provident Associations should be set up on an area basis with interavailability of membership and benefit, and area associations should be linked together by a national federation of approved Provident Associations, with functions mainly advisory and consultative.

7. Provident Associations should not be linked with particular hospitals or nursing homes or interlocked with hospital contributory schemes, but should remain separate financial and legal entities. They could, where considered desirable, be related to contributory or analogous schemes for purely administrative purposes.

8. The governing body of Provident Associations should include definite representation of

(a) subscribing members;

(b) area hospital services;

(c) the medical profession;

with provision for co-option.

9. Provident Associations should co-operate with hospitals and nursing homes in their areas on the provision of pay-bed accommodation, and with the medical profession in regard to the application of the agreed scales of fees. It is not desirable that an association should undertake to reserve accommodation in hospitals or nursing homes.

10. The schemes should be administered through Area Associations. There should be a system of transfers of membership between associations on a basis of an agreed transfer value, thus ensuring continuity of membership and title to benefit. Members removing to an area in which no approved association existed would continue to be treated as members of their original association pending the formation of an association in the area to which they had removed. A National Federation of Approved Associations should be formed for advisory and consultative purposes. This Federation might eventually be utilized in connexion with the establishment of a central fund to which Area Associations could contribute an agreed proportion of surplus contributions, and from which advances could be made for the purpose of assisting affiliated associations which in special circumstances found themselves in deficiency.

11. Pending the establishment of Area Provident Associations and the formation of the National Federation referred to in the foregoing paragraph, it is proposed to institute an Advisory Committee on Provident Schemes.

It is suggested that the functions of this committee should include:

(a) The provision of advice in connexion with the formation of Area Associations.

(b) The preparation of a constitution for a National Federation of Provident Associations for the consideration and approval of Area Associations.

(c) The consideration of a membership transfer scheme, and proposals for the establishment of a central fund on the lines suggested in paragraph 10 of this memorandum.

(d) The consideration of questions arising in connexion with the delimitation of areas of Provident Associations.

It is suggested that, pending the formation of a National Federation, the Advisory Committee should include representatives of:

The British Medical Association,

The British Hospitals' Association,

The British Hospitals Contributory Schemes Association,

Existing Provident Associations.

Representation on the proposed Advisory Committee would be open to Area Associations as and when formed. The Advisory Committee would be a purely provisional body, and, when a number of Area Associations have been formed, steps should be taken to replace the committee by a National Federation of Provident Associations.

DRAFT MEMORANDUM AND ARTICLES OF ASSOCIATION

The Companies Act, 1929
Company Limited by Guarantee and not having a
Share Capital

MEMORANDUM OF ASSOCIATION

of

THE.....

PROVIDENT ASSOCIATION LIMITED

1. The name of the Company hereinafter called the Association is "The Provident Association Limited."

2. The registered office of the Association will be situate in Great Britain.

3. The objects for which the Association is established are:

(1) By the subscription of members to establish a fund whereby the cost of the medical and surgical treatment (other than general medical practitioner treatment) of members and their dependants and other expenses ancillary to such treatment may be wholly or partially defrayed.

(2) To make arrangements with hospitals, infirmaries, nursing homes, and other institutions for the treatment of the sick, and with registered medical practitioners for the treatment of members and their dependants.

(3) To enter into agreements or arrangements with other Associations or Societies having the like objects for the transfer of members and for such other purposes as may be conducive to the furtherance of the objects of the Association or the benefit of the members.

(4) To do all such lawful things as are incidental or conducive to the attainment of any of the above objects.

4. No part of the income or property of the Association shall be paid or distributed by way of profit, and all such income and property shall be applied solely to the promotion of the objects of the Association.

5. The liability of the members is limited.

6. Every member of the Association undertakes to contribute to the assets of the Association in the event of the same being wound up during the time that he is a member or within one year afterwards for payment of the debts and liabilities of the Association contracted before the time at which he ceases to be a member and of the costs, charges, and expenses of winding up the same and for the adjustment of the rights of contributories among themselves such amount as may be required not exceeding 1s.

The Companies Act, 1929.
Company Limited by Guarantee and not having a
Share Capital

ARTICLES OF ASSOCIATION

of

THE.....

PROVIDENT ASSOCIATION LIMITED

1. For the purpose of registration the number of members of the Association is declared to consist of members. The Executive Council hereinafter mentioned (hereinafter referred to as the Council) may, whenever the circumstances of the Association require it, register an increase of members.

2. These Articles shall be construed with reference to the provisions of the Companies Act, 1929, and the terms used in these Articles shall be taken as having the same respective meanings as they have where used in that Act, and the expression "members," when the context so admits, shall mean the registered members for the time being of the Association. The term "dependant" shall

mean a person who is either (a) a child of the subscribing member under 16 years of age (or 18 years of age if receiving full-time instruction at any university, college, school, or other educational establishment), or (b) a relative of the subscribing member who satisfies the Council that he or she is living with and is dependent upon the subscribing member, and who is registered with the scheme as a dependant of the subscribing member, or (c) a daughter or stepdaughter of any age who keeps house for a subscribing member. Words importing the masculine shall include the feminine.

3. The Association is established for the purpose expressed in the Memorandum of Association.

4. The subscribers to the Memorandum of Association of the Association and such other persons as shall be admitted to membership in accordance with these regulations shall be members of the Association, and shall be entered in the register of members accordingly. No person shall be admitted to membership unless resident within the and unless of the age of 16 years or upwards.

5. There shall be three classes of members—namely, (a) subscribing members, (b) medical members, and (c) hospital members.

6. The qualification of a subscribing member shall be the payment of an annual subscription at such of the rates as set out in Clause 40 as shall be applicable to him. When a male subscribing member or the husband of a female subscribing member is over the age of 55 years or the wife of a male subscribing member is over 50 years of age at the date of admission the rate of subscription shall be 10 per cent. in excess of the rate applicable to other members, provided that the rate of subscription of a member shall not be increased by reason of the age of the wife or husband of the member if such wife or husband is also a subscribing member.

7. Registered medical practitioners actually practising within the areas mentioned in Clause 4 shall be eligible for election as medical members.

8. Representatives of hospitals and nursing homes situate within the areas mentioned in Clause 4 shall be eligible for election as hospital members.

9. Medical and hospital members shall not pay any subscription and shall not receive any benefits, but shall be eligible for election as medical and hospital representatives respectively on the Council and to vote in elections thereto and to vote at General Meetings of the Association for all purposes except for the election to the Council of representatives of subscribing members.

10. No person shall be admitted a member of the Provident Association in any class unless he is first approved by the Council, and the Council shall have full discretion as to the admission or non-admission of any person to membership and shall have the right to impose special conditions of membership including a prior medical examination in any particular case.

11. Any person desiring to be admitted to membership of the Provident Association shall sign and deliver to the Provident Association an application for membership framed in such terms as the Council shall require, and applicants desiring to be subscribing members shall comply with such requirements as to references, evidence of health, and otherwise as the Council shall see fit to impose.

12. The privileges of a subscribing member shall not be transferable and shall cease on his death or resignation or on his failure in any year to pay his annual subscription punctually, but if a subscribing member shall die during the currency of any year his dependants shall be entitled to benefit during the remainder of the year for which his subscription has been paid. A member wishing to resign shall give the Provident Association notice in writing of his desire so to do at least one month before the expiration of the year for which his subscription has been paid, and on the expiration of such notice his membership shall cease. A member not giving such notice shall continue to be liable for the payment of his subscription unless his membership shall be terminated by the Council under Clause 13.

13. The Council shall have the right to decline to allow any member to renew his subscription or to impose special conditions as a condition of renewal.

14. Patients shall be admitted to the benefits of the scheme only on the recommendation of a private practitioner, except in cases of emergency.

15. Subscribing members shall be entitled to receive for themselves and their dependants benefits at the rates set out in Clause 41, but shall not be entitled to any benefit until the expiration of three months after admission to membership. If the number of dependants of a member shall be increased during the currency of any year such member shall not be entitled to benefit for such additional dependants during such year and shall in the next succeeding year if he shall continue to be a member pay his subscription at the rate appropriate to such increased number of dependants and shall be then entitled to benefit in respect of them.

16. No benefit shall be payable in respect of mental diseases (including mental deficiency), dental treatment, and normal maternity, or of treatment in any case dealt with for the time being by any scheme of national health insurance, nor in respect of which financial responsibility is assumed by any local authority.

17. No responsibility for treatment or the provision of accommodation is assumed by the Provident Association.

18. Subscribing members applying for benefit must give to the Provident Association notice of claim within a period of one month from the commencement of the treatment or other service in respect of which the claim is made, and payment of benefit will only be made on the recommendation of the member's medical attendant. In case of emergency or for other sufficient reason (of which the Council shall be the sole judge) the Council may allow the payment of benefit although the provisions of this clause have not been complied with. Any decision of the Council whether or not a person for whom benefit is claimed is a dependant within the meaning of these Articles shall be final.

19. Before payment of benefit the Council may require such evidence as it shall think proper of the expenses incurred by the member by whom the claim for benefit is made.

20. There shall be an Executive Council for the management of the affairs of the Provident Association which shall consist of sixteen members, of whom eight shall be elected by the subscribing members from among their own number and four by the medical members from among their own number and four by the hospital members from among their own number. The first members of the Council shall be:

21. The members of the Council shall be elected at the Annual General Meeting in each year, and shall hold office for one year until the end of the next succeeding Annual General Meeting, but shall be eligible for re-election. Casual vacancies shall be filled by co-option by the remaining members of the Council of the class in which the vacancy occurs, but a co-opted member shall only hold office until the next Annual General Meeting.

22. The Council shall manage the affairs of the Provident Association, and may exercise all such powers of the Association as are not by the Companies Acts, 1929, required to be exercised by the Association in general meeting, subject, nevertheless, to any regulation of these Articles and the provisions of the said Act, and the Council may make such by-laws for the conduct of the affairs of the Association as it shall think proper. The Council may pay all expenses incurred in establishing and registering the Provident Association.

23. The Council shall engage such officers and servants as it may consider necessary, and shall fix and regulate their duties and salaries, and discharge them as it shall think fit.

24. The Council may continue to act although their number is reduced by death, retirement, or otherwise

below sixteen, provided that if at any time their number is reduced below eight the continuing members shall only act for the purpose of filling up vacancies.

25. The quorum necessary for the transaction of business at a meeting of the Council shall be four.

26. The Council shall annually elect a chairman, who shall, if present, preside at its meetings.

27. Subject to Clauses 25 and 26, the Council may meet together for the dispatch of business, adjourn, and otherwise regulate its meetings as it shall think fit, and questions arising at any meeting shall be decided by a majority of votes. In the case of an equality of votes the chairman of the meeting shall have a second or casting vote. The chairman may at any time summon a meeting of the Council. Upon receiving a requisition signed by not less than members of the Council and specifying the business for which a Special Meeting is required, the chairman shall convene a Special Meeting thereof. No business shall be transacted at such meeting other than that for which such meeting is called.

28. The first General Meeting of the Provident Association shall be held at such time not being less than one month or more than three months after the incorporation of the Association and at such place as the Council shall determine. Subsequent General Meetings of the Provident Association shall be held once every year at such time (not being more than fifteen months after the holding of the last preceding General Meeting) and place as the Council shall determine. The Council may at any time summon an Extraordinary General Meeting: Seven days' notice of each meeting shall be given to the members and in case of special business notice of the general nature of such business. All business transacted at any Extraordinary General Meeting shall be deemed to be special business. Accidental omission to give notice to any member shall not invalidate the proceedings at any meeting.

29. No business shall be transacted at a General Meeting unless a quorum of members is present at the time when the meeting proceeds to business. At any General Meeting a quorum shall consist of ten members personally present.

30. If within half an hour from the time appointed for a meeting a quorum is not present the meeting shall stand adjourned to the same day in the next week at the same time and place, and if at such adjourned meeting a quorum is not present within half an hour of the time appointed for the meeting any two or more members present shall be a quorum.

31. The chairman of the Council shall preside as chairman at every meeting of the Provident Association, but if at any time there is no such chairman or he is not present within fifteen minutes after the time appointed for holding the meeting, or if he is unwilling to act the members shall choose another member of the Council who is present and willing to act as chairman, but if there be no such member of Council then the members present shall choose one of their own number to be chairman.

32. The chairman may, with the consent of the meeting, adjourn any meeting from time to time or from place to place, but no business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place.

33. On any question arising for decision at a meeting every member shall have one vote and no more. In case of equality of votes the chairman of the meeting shall have a second or casting vote.

34. The Council shall for each year prepare and submit to the Annual General Meeting of the Provident Association a report upon the affairs of the Provident Association during the past year, and also submit to the meeting a duly audited statement of accounts for such year.

35. The Council shall cause true accounts to be kept of the sums of money received and expended by the Association and the matter in respect of which such receipts and expenditure take place and of the assets and liabilities of the Provident Association.

36. The books of account shall be kept at the registered office of the Provident Association, and shall be open to inspection of any member of the Council, but except with

the sanction of the Council no other person shall be entitled to inspect any book or document or account of the Provident Association unless he is authorized to do so by statute or by these Articles or by a resolution of the Provident Association in General Meeting.

37. Auditors shall be appointed and their duties regulated in accordance with Secs. 132 and 134 of the Companies Act, 1929, the first General Meeting being treated as the statutory meeting, the Council being treated as the directors and the members being treated as the shareholders mentioned in the said sections.

38. Any notice may be served by the Association upon any member either personally or by sending it through the post in a prepaid letter addressed to such member

at his registered address. Any notice if served by post shall be deemed to have been served within twenty-four hours from the time when the letter containing the same was put into the post office, and in proving such service it shall be sufficient to prove that such letter was properly addressed and put into the post office.

39. Persons whose income from all sources does not exceed a prescribed limit shall be eligible for benefit.

40. Rates of contributions of subscribing members shall be such as are prescribed from time to time.

41. The amounts which the Provident Association shall pay in respect of nursing home charges and medical service fees shall be such as are prescribed from time to time.

NOTES ON FINANCIAL ASPECTS OF PROVIDENT ASSOCIATIONS

(a) The organization of any scheme and the formulation of rates of premium are dependent on the negotiation of agreed scales of fees for medical services and agreed rates of payment for institutional accommodation.

(b) *Income Limits.*—These should be the subject of special consideration and negotiation in each area. The following scales are suggested, subject to economic and local variations and to periodic revision:

Limits of Income outside Metropolitan Area

	£
Class I.—Members without dependants ...	350
Class II.—Members with one dependant ...	425
Class III.—Members with more than one dependant ...	500

Limits of Income for Metropolitan Area

	£
Class I.—Members without dependants ...	375
Class II.—Members with one dependant ...	475
Class III.—Members with more than one dependant ...	550

(c) *Rates of Contribution.*—The rates of contribution below are suggested as likely to attract subscribers and at the same time to produce a sufficient income to allow of reasonable scales of payment to institutions and the medical profession. Rates of contribution and the amounts payable to institutions and medical practitioners are interdependent, and should be the subject of special consideration and negotiation in each area.

	Per annum
	£. s. d.
Class I members ...	1 18 0
Class II members ...	2 12 0
Class III members ...	3 0 0

Contributions are payable annually, half-yearly, or quarterly as desired by the members. The Provident Association may impose special terms as to rates of membership in certain cases—for example, for persons over certain ages.

(d) The calculations which follow are based on the limited experience which is available in existing schemes. On the basis of 10,000 membership it is estimated that the average number of members claiming benefit for themselves or their dependants each year would be 600, and the average cost per claim would be between £30 and £34. The annual income of 10,000 members is estimated on the rates of contribution given above to be between £22,000 and £25,000, of which £9,000 would go to hospitals and institutions for maintenance (on the basis of rates given in (f)), and between £9,500 and £10,000 in fees for medical service. The administrative expenses should not in the initial period of the scheme exceed 10 per cent. of the income. A claims reserve fund should be created, and at least 5 per cent. of the income should be transferred to this fund.

(e) It is recognized that experience of this type of insurance is extremely limited, and it is necessary, therefore, to impose definite safeguards and limitations if the actuarial basis is to be preserved.

(f) *Professional Fees.*—A schedule of fees should be reached by agreement between the Provident Association

and the local medical profession as represented by the local Division of the British Medical Association. In general, it is believed that the estimated sum of £30 to £34 per claim can be made available on rates of contribution which will prove attractive to the class of person for which provident schemes are intended. This figure will permit an average payment for medical services of £16 per case. This average figure could be maintained whatever method of distribution is negotiated with the medical profession. One possible schedule of charges is given below:

(1) *Surgical Cases (Operative).** — Operations are classified into three groups, and the surgeon receives £25, £15, or £7 according to the group into which the operation falls. For example:

Group 1 contains major operations.

Group 2 intermediate operations.

Group 3 minor operations and investigations.

The anaesthetic fees for the three groups, 2 guineas, 1½ guineas, and 1 guinea respectively, are to be paid in addition to the surgeon's fee. No additional fee will be paid for any services rendered by the surgeon in the prescribed period in the institution. The incidence of the three groups is believed to be such that an average fee of 12½ guineas per operation will be paid to the surgeon.

(2) *Medical Cases and Non-operative Surgical Cases.*—A fee of 5 guineas per week (1 guinea per day for periods of not more than five days, with a minimum of 3 guineas), with a maximum fee of 15 guineas.

NOTE.—Fees will not be payable under (1) and (2) in any one illness. It is recognized that in many cases it will be necessary to call in for consultation purposes other medical practitioners. Provision can be made in the scheme for payment of the consultants thus called in with a maximum liability of 3 guineas—for consultation purposes, with a total maximum of expenditure under (1) and (2) and in respect of the internal consultation fee of £25. Alternatively, it may be decided that the consultation fee should be paid from the fee payable to the physician and surgeon under (1) and (2).

(3) *Radiologist's Fee.*—At scheduled rates, with a maximum of 3 guineas.

(4) *Pathologist's Fee.*—At scheduled rates, with a maximum of 2 guineas.

(g) *Institutional Fees.*—It is tentatively suggested that the hospital or nursing home benefit should be the inclusive cost of maintenance in a paying bed of a hospital or in a nursing home approved by the Provident Association at a rate not exceeding £5 per week for a maximum period of three weeks in any one year of membership. These figures have been taken as the basis of the foregoing calculations.

Until a wider experience is gained limitations are essential, and in suggesting a period of three weeks it has been borne in mind that the average period of stay in hospital is eighteen days.

* The advice of the British Medical Association will be available in the negotiation of detailed schedules. Application should be made to the Medical Secretary.

NOTICES OF MOTION FOR THE ANNUAL CONFERENCE OF REPRESENTATIVES OF LOCAL MEDICAL AND PANEL COMMITTEES, 1934

CERTIFICATION

RELATIONSHIP OF PREGNANCY TO SICKNESS BENEFIT

(Paras. 22 to 25 of Annual Report of Insurance Acts Committee, British Medical Journal Supplement, August 18th, 1934)

AMENDMENT BY MIDLOTHIAN: That the following be substituted for subparagraph (b) of Recommendation A:

(b) That a medical certificate shall be held to be adequate if it certifies the incapacity for work of the insured person on the completion of the eighth month of pregnancy.

FURTHER INTERMEDIATE CERTIFICATE

(Paras. 26 and 27 of Annual Report of Insurance Acts Committee)

AMENDMENT BY MIDLOTHIAN: That the intermediate certificate should be altered to enable the doctor to state that incapacity was continuing or will be continuing on a specified date, provided that the doctor saw the patient not more than two days after or two days before that date.

REFERENCES TO REGIONAL MEDICAL OFFICERS

(Para. 33 of Annual Report of Insurance Acts Committee)

AMENDMENT BY LONDON: That Recommendation G in para. 33 of the Report of the Insurance Acts Committee be amended by inserting the word "stamped" between the words "enclosed" and "envelope" in the suggested draft letter.

PRESCRIBING

"NATIONAL FORMULARY": SUGGESTED PUBLICATION OF PRESCRIBING COSTS

(Para. 53 of Annual Report of Insurance Acts Committee)

MOTION BY LONDON: That, with regard to para. 53 of the Annual Report of the Insurance Acts Committee, this Conference is of opinion that it is not contrary to good policy to issue information showing the cost of the various prescriptions in the *National Formulary* in a separate and approved form to such practitioners as desire to apply for it.

MEDICAL REPRESENTATION ON INSURANCE COMMITTEES

(Paras. 69 and 70 of Annual Report of Insurance Acts Committee)

MOTION BY LONDON: That with reference to para. 70 of the Report of the Insurance Acts Committee this Conference is of opinion that the appointment of regular deputies to medical members of Insurance Committees would be in the best interests of the service, and instructs the Insurance Acts Committee to press for the appointment of such deputies.

MEDICAL RECORDS

(Paras. 73 to 76 of Annual Report of Insurance Acts Committee)

AMENDMENT BY LONDON: That Recommendation N, in para. 76 of the Annual Report of the Insurance Acts Committee, be amended to read as follows:

That the record envelope and the continuation card be retained in their present respective forms, subject to

- (i) the back of the envelope not being used for records;
- (ii) that a reduction be made in the size of the continuation card and of the diagnosis margin ruled thereon;
- (iii) that in the envelope there be filed by the practitioner any record or reports relating to the patient received from the tuberculosis officer or any other matters relating to the insured person's illnesses;
- (iv) that the envelope should be smooth externally for ease in filing.

CONFERENCE OF SCOTTISH LOCAL MEDICAL AND PANEL COMMITTEES

(Para. 109 of Annual Report of Insurance Acts Committee)

MOTION BY MIDLOTHIAN: That the Conference expresses sympathy with Scottish Local Medical and Panel Committees in respect that the Insurance Acts Committee and the Insurance Acts Scottish Subcommittee have omitted to convene a Scottish Panel Conference in 1934.

RECONSTITUTION OF SCOTTISH SUBCOMMITTEE

(Para. 115 of Annual Report of Insurance Acts Committee)

MOTION BY MIDLOTHIAN: That the Conference considers that the interests of insurance practitioners in Scotland can only be adequately safeguarded by the reconstitution of the Insurance Acts Scottish Subcommittee as the Insurance Acts Committee (Scotland) with substantive powers.

OPHTHALMIC TREATMENT

MOTION BY PLYMOUTH: That in the opinion of this Conference insurance practitioners should be relieved of the obligation to grant certificates to insured patients advising ophthalmic treatment in view of the fact that so many approved societies refuse to accept such certificates without the endorsement of a medically unqualified optician.

Clause 9 (2) of Terms of Service.—If the condition of the patient is such as to require any ophthalmic treatment which is not within the scope of the practitioner's obligations under these Terms of Service, the practitioner, if so desired by the patient, shall in addition furnish him with a recommendation in writing signed by the practitioner that such treatment should be obtained.

PAYMENT FOR PATIENT NOT ON DOCTOR'S LIST FOR A FULL QUARTER

MOTION BY LONDON: That this Conference is of opinion that a patient requiring treatment at the time of acceptance on a practitioner's list should, if removed therefrom before the end of the current quarter, be accounted as a temporary resident, and the practitioner remunerated accordingly.

Association Notices

CONFERENCE OF SPA PRACTITIONERS GROUP

Notice is hereby given that a Conference of the Spa Practitioners Group of the British Medical Association will be held at B.M.A. House, Tavistock Square, London, W.C.1, on Friday, October 19th, 1934, at 2.30 p.m.

Members of the Association who regularly prescribe the mineral waters or baths of the spa whereat they reside, or who are on the staff of a hospital where the use of the local mineral waters is part of the routine treatment, are *ipso facto* members of the Group, and are invited to attend the meeting.

Agenda

1. Appoint: Chairman of Conference.
2. Consider: Annual Report of Group Committee, 1933-4.
3. Appoint: Group Committee for session 1934-5.
4. Any other relevant business.

G. C. ANDERSON,
Medical Secretary.

CONFERENCE OF CONSULTING PATHOLOGISTS GROUP

Notice is hereby given that a Conference of the Consulting Pathologists Group of the Association will be held at B.M.A. House, Tavistock Square, London, W.C.1, on Friday, October 19th, 1934, at 4 p.m.

Members of the Association who are working in an institutional or private pathological laboratory, engaged in examining and reporting on specimens for general clinical purposes, are *ipso facto* members of the Group, and are invited to attend the Conference.

Agenda

1. Appoint: Chairman of Conference.
2. Receive: Report of the Group Committee, 1932-4.
3. Appoint: Group Committee for session 1934-5.
4. Any other relevant business.

G. C. ANDERSON,
Medical Secretary.

PROPOSED ADEN BRANCH

Notice is hereby given by the Council of the Association to all concerned of a proposal made by members of the Association resident in Aden and the Protectorate of Aden that an Aden Branch of the Association be formed, of area coterminous with the foregoing.

Any member affected by the proposal and objecting thereto is requested to write to the Medical Secretary by November 6th, stating the objection and the ground therefor.

G. C. ANDERSON,
Medical Secretary.
October 6th, 1934.

BRANCH AND DIVISION MEETINGS TO BE HELD

BORDER COUNTIES BRANCH—At Crown and Mitre Hotel, Carlisle, Thursday, October 11th, 3.30 p.m. Presidential address by Dr. A. W. Wakefield: "Mount Everest."

DUNDEE BRANCH—At University College, Dundee, Wednesday, October 10th, 8.30 p.m. Dr. A. E. Chisholm: Report on Annual Representative Meeting, Bournemouth. Dr. J. D. Gilruth: "Venice and its Art."

ESSEX BRANCH: SOUTH ESSEX DIVISION—At Queen's Hotel, Westcliff-on-Sea, Tuesday, October 9th, 8.30 p.m. Annual general meeting. Dr. R. J. V. Pulvertaft: "Treatment of Pyogenic Infection."

HERTFORDSHIRE BRANCH: BARNET DIVISION—At Hadley Wood Golf Club, Tuesday, October 9th, 8 p.m. Social meeting and dinner. Mr. D. C. L. Fitzwilliams: "Old Barnet."

LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION—Excursion to Wedgwood Pottery Works, Thursday, October 11th, 2.30 p.m.

LANCASHIRE AND CHESHIRE BRANCH: ROCSDALE DIVISION—At Rochdale Infirmary, Friday, October 12th, 8.30 p.m. Address by Dr. Robert Forbes (Deputy Medical Secretary): "Public Medical Service Schemes."

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION—At 53, Belsize Park, N.W., Thursday, October 11th, 8.30 p.m. Report of representatives on Annual Representative Meeting, Bournemouth. Inaugural address by the chairman, Mr. N. A. Sprott: "Story of the Silver Char Minar."

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION—At Catford Town Hall, Tuesday, October 9th, 8.45 p.m. Dr. R. D. Lawrence: "Simplicity in the Modern Treatment of Diabetes."

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION—At British Medical Association House, Tavistock Square, W.C., Tuesday, October 9th, 9 p.m. Mr. V. Zachary Cope: "Some Neglected Aids in the Diagnosis of Acute Abdominal Infections."

NORFOLK BRANCH: WEST NORFOLK DIVISION—At West Norfolk and King's Lynn Hospital, Thursday, October 11th, 3 p.m. Discussion with county M.O.H. on further details of the council's ante-natal examination scheme.

SOUTHERN BRANCH: PORTSMOUTH DIVISION—At Queen's Hotel, Southsea, Thursday, October 11th, 9.30 p.m. Dr. L. S. T. Burrell: "Artificial Pneumothorax." Preceded by supper at 9 p.m.

SHROPSHIRE AND MID-WALES BRANCH—At Royal Salop Infirmary, Shrewsbury, Tuesday, October 9th, 3.45 p.m. Annual general meeting. Election of officers, etc. Presidential address by Dr. John Adams: "Disseminated Sclerosis."

SURREY BRANCH: RICHMOND DIVISION—At Richmond Royal Hospital, Friday, October 12th, 3.30 p.m. Clinical meeting.

Naval and Military Appointments

ROYAL NAVAL MEDICAL SERVICE

Surgeon Captains C. V. Griffiths, D.S.O., to the *Boscawen*, for Portland Hospital; H. F. Briggs to the *Afrikaner*, for Cape of Good Hope Hospital.

Surgeon Lieutenant Commander G. A. Miller and C. H. Birt to the *President*, for course.

Surgeon Lieutenant B. S. Lewis to the *Victory*, for Royal Naval Barracks.

The seniority of Surgeon Lieutenant D. B. Jack has been ante-dated to November 1st, 1932.

ROYAL NAVAL VOLUNTEER RESERVE

Surgeon Lieutenant G. J. Murray to the *Effingham*.

Probationary Surgeon Sublieutenant W. S. Miller to be Surgeon Sublieutenant.

ROYAL AIR FORCE MEDICAL SERVICE

Flight Lieutenant (Honorary Wing Commander) J. Valerie, O.B.E., relinquishes his temporary commission on completion of service, and is permitted to retain the 'honorary' rank of Wing Commander.

Flight Lieutenants P. J. McNally to Aeroplane and Armament Experimental Establishment, Martlesham Heath; J. C. Neely to Central Medical Establishment.

Flying Officer G. Gilchrist to be Flight Lieutenant.

ROYAL ARMY MEDICAL CORPS

Lieutenant C. B. R. Pollock to be Captain.

MILITIA

ROYAL ARMY MEDICAL CORPS

Major C. S. Sandeman retires on attaining the age limit, and retains the rank of Major.

DIARY OF SOCIETIES AND LECTURES

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Wed. and Thurs., 5 p.m., Dr. Arthur B. Duel, F.A.C.S.: Operative Treatment of Facial Palsy.

ROYAL SOCIETY OF MEDICINE

United Services Section—Mon., 4.30 p.m., Presidential Address by Major-General P. H. Henderson: Some Milestones of Achievement in Army Hygiene, and a Few Suggestions for Further Progress.

Section of Therapeutics and Pharmacology—Tues., 5 p.m. Presidential Address by Professor J. H. Burn: The Control of the Blood Pressure.

Clinical Section—Fri., 5.30 p.m. (Cases at 4.30 p.m.) Cases by Dr. R. W. B. Ellis (for Dr. E. A. Cockayne), Dr. S. Gilbert Scott, and Dr. Courtenay Evans.

Section of Ophthalmology—Fri., 8.30 p.m. (Cases 8 p.m.) Presidential Address by Mr. Ransom Pickard: The Causation of Herpes Ophthalmicus.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—Mon., 8 p.m., Annual General Meeting. 8.30 p.m., Presidential Address by Lord Horder: Medicine and Morals.

MEDICAL SOCIETY OF INDIVIDUAL PSYCHOLOGY—At 11, Chandos Street, W., Thurs., 8.20 p.m. Extraordinary General Meeting, followed by an Address by the Chairman, Dr. J. C. Young.

ROYAL INSTITUTE OF PUBLIC HEALTH AND INSTITUTE OF HYGIENE—At 28, Portland Place, W., Wed., 3.30 p.m. Sir P. Varrier-Jones: Economics of the Tuberculosis Problem.

PADDINGTON MEDICAL SOCIETY—At Great Western Royal Hotel, Paddington, W., Tues., 9 p.m. Professor F. Langmead: Significance of High Blood Pressure.

BIOCHEMICAL SOCIETY—At Biochemical Laboratory, Cambridge, Sat., 2.30 p.m. Communications.

British Medical Association

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE
TAVISTOCK SQUARE, W.C.1

Departments

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).
MEDICAL SECRETARY (Telegrams: Medisecra Westcent, London).
EDITOR, BRITISH MEDICAL JOURNAL (Telegrams: Aitiology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Euston 2111 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 7, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 24361 Edinburgh.)

IRISH MEDICAL SECRETARY: 18, Kildare Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 62550 Dublin.)

Diary of Central Meetings

OCTOBER

- 5 Fri. Register of Medical Auxiliaries Drafting Subcommittee, 2 p.m.
- 9 Tues. Central Ethical Committee, 2.15 p.m.
- 10 Wed. Hospitals Committee, 2 p.m.
- 12 Fri. Committee for Revision of Memorandum re Osteopathy, 2.30 p.m.
- 16 Tues. Organization Committee, 2 p.m.
- 17 Wed. Medico-Political Committee, 2 p.m.
- 19 Fri. Spa Practitioners Group Committee, 11 a.m.
- 25 Thurs. Library Subcommittee, 2.30 p.m.
- 26 Fri. Public Health Committee, 2 p.m.

POST-GRADUATE COURSES AND LECTURES

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.—Mon. to Sat., Intensive Course.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.—*Medical Society of London*, 11, Chandos Street, W.: Tues., 2.30 p.m., Lecture-Demonstration by Dr. Clark-Kennedy on Ataxia. *Metropolitan General Hospital*, Kingsland Road, E.: All-day Post-Graduate Course in Medicine and Surgery. *Queen's Hospital for Children*, Hackney Road, E.: All-day Post-Graduate Course in Diseases of Children. *St. John Clinic and Institute of Clinical Medicine*, Ranelagh Road, S.W.: Lecture-Demonstrations in Physical Medicine, 8 p.m. *St. John's Hospital for Diseases of the Skin*, Leicester Square, W.C.: Post-Graduate Course in Dermatology, afternoons and evenings; lectures at 5 p.m. *National Hospital for Diseases of the Heart*, Westmoreland Street, W.: All-day Post-Graduate Course in Cardiology. *Royal Chest Hospital*, City Road, E.C.: Week-end Course in Diseases of the Heart and Lungs. *Panel of Teachers*: Individual clinics in various branches of medicine and surgery available daily. Courses of instruction are open only to members and associates of the Fellowship.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL, Denmark Hill, S.E.—Thurs., 9 p.m., Mr. Cecil P. G. Wakeley, Tumours of the Breast and their Treatment.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester Square, W.C.—*Tues.*, 5 p.m., Dr. M. Sydney Thomson, Animal Diseases Communicable to Man. *Wed.*, 5 p.m., Dr. I. Muende, Introduction to Histopathology of the Skin.

NATIONAL HOSPITAL, Queen Square, W.C.—*Mon. to Fri.*, 2 p.m., Out-patient Clinics. *Mon.*, 3.30 p.m., Dr. E. A. Carmichael, Physiology of the Cerebro-spinal Fluid. *Tues.*, 3.30 p.m., Dr. D. Denny Brown, Physiology of Muscle. *Wed.*, 3.30 p.m., Dr. J. S. Collier, Clinical Demonstration. *Thurs.*, 3.30 p.m., Dr. D. Denny Brown, Physiology of Nerve Fibre. *Fri.*, 3.30 p.m., Dr. Bernard Hart, The Psychoneuroses.

ROYAL INSTITUTE OF PUBLIC HEALTH, 23, Queen Square, W.C.—*Mon., Tues., and Wed.*, 4 p.m., Harben Lectures by Professor W. J. Tulloch, Diagnosis of Small-pox and the Investigation of Vaccinia by Laboratory Methods.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—*Daily*, 2 p.m., Operations, Medical and Surgical Clinics; *Mon.*, 10 a.m., Medical and Surgical Wards, Skin Clinic; 2 p.m., Surgical Wards, Eye and Gynaecological Clinics; 4.15 p.m., Lecture, Mr. Green-Armytage, Gonorrhoea in the Female. *Tues.*, 10 a.m., Medical Wards; 11 a.m., Surgical Wards; 2 p.m., Throat Clinic; 4.15 p.m., Lecture, Dr. Konstam, Diseases of the Spleen. *Wed.*, 10 a.m., Children's Ward and Clinic; 2 p.m., Medical Wards, Eye Clinic. *Thurs.*, 10 a.m., Neurological and Gynaecological Clinics; 11.30 a.m., Fracture Clinic; 2 p.m., Eye and Genito-urinary Clinics. *Fri.*, 10 a.m., Skin Clinic; 12 noon, Lecture on Treatment; 2 p.m., Throat Clinic; 4.15 p.m., Lecture, Mr. Sangster Simmonds, Congenital Pyloric Stenosis. *Sat.*, 10 a.m., Medical and Surgical Wards, Children's and Surgical Clinics. The lectures at 4.15 p.m. are open to all medical practitioners without fee.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTE-NATAL CLINICS.—Royal Infirmary: *Mon. and Thurs.*, 10.30 a.m. Maternity Hospital: *Mon., Tues., Wed., Thurs., and Fri.*, 11.30 a.m.

MANCHESTER ROYAL INFIRMARY.—*Tues.*, 4.15 p.m., Dr. T. H. Oliver, Practical Points in Diabetes. *Fri.*, 4.15 p.m., Dr. F. R. Ferguson, Demonstration of Medical Cases.

VACANCIES

ABERDEEN COUNTY.—Assistant M.O.H.

ADELAIDE CHILDREN'S HOSPITAL, South Australia.—Three R.M.O.'s.

ALBERT DOCK HOSPITAL, Connaught Road, E.—R.M.O. (male).

ALTRINCHAM GENERAL HOSPITAL.—(1) Senior H.S. (2) J.H.S.

BAGHDAD: ROYAL COLLEGE OF MEDICINE.—Chair of Materia Medica (including Pharmacology, Therapeutics).

BATH AND WESSEX CHILDREN'S ORTHOPAEDIC HOSPITAL.—(1) Hon. Visiting S. (2) Resident Assistant S. and Registrar.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—(1) H.P. (2) H.S. Males.

BIRMINGHAM: QUEEN'S HOSPITAL.—(1) Assistant Obstetrical and Gynaecological S. (2) P. for Out-patients.

BRIGHTON COUNTY BOROUGH.—J.R.M.O. (male) at Sanatorium and Infectious Disease Hospital.

BRISTOL GENERAL HOSPITAL.—(1) Hon. P. (2) Hon. Assistant P.

BRISTOL ROYAL INFIRMARY.—(1) Hon. S. (2) Hon. Assistant S.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—(1) Resident Anaesthetist and C.O. (2) H.S. to Special Departments. Males, unmarried.

CANCER HOSPITAL (FREE), Fulham Road, S.W.—Full-time Assistant Radium Officer.

CAPE TOWN UNIVERSITY.—Lecturer in Anatomy.

CHESTER ROYAL INFIRMARY.—H.S. (male).

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.—H.P. (male).

COVENTRY AND WARWICKSHIRE HOSPITAL.—H.S. (male).

DREWSBURY AND DISTRICT GENERAL INFIRMARY.—H.S. (male).

EASTBOURNE: ROYAL EYE HOSPITAL.—H.S. (non-resident).

GLASGOW: WESTERN INFIRMARY.—Full-time Assistant Radiologist.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—H.S. (male).

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—H.S. (male, unmarried).

ILFORD BOROUGH.—Assistant School Dental S.

ILFORD: KING GEORGE HOSPITAL.—R.C.O. (male).

INFANTS HOSPITAL, Vincent Square, S.W.—H.P.

KING'S COLLEGE HOSPITAL, Denmark Hill, S.E.—Junior S.

LANCASHIRE COUNTY COUNCIL.—Assistant Tuberculosis M.O. (male, unmarried) for High Carley Sanatorium, near Ulverston.

LANCASTER: ROYAL LANCASTER INFIRMARY.—J.H.S. (male, unmarried).

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) M.O. to Special Departments and Resident Anaesthetist. (2) R.C.O.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—Leverhulme Research Fellowship (male) tenable at Sir Alfred Lewis Jones Research Laboratory, Sierra Leone.

LONDON COUNTY COUNCIL.—(1) A.M.O.'s. (Grade I) for Infectious Hospitals Service. (2) A.M.O. (Grade I) for (a) Princess Mary's Hospital for Children, Cliftonville, Margate, (b) Grove Park Hospital, S.E. Males. (3) A.M.O. (Grade II) for (a) North-Eastern Hospital, N., (b) North-Western Hospital, N.W., (c) Colindale Hospital, N.W. (male), (d) Pine-wood Sanatorium, Wokingham (female), (e) King George V Sanatorium, Godalming. (4) H.P. for Queen Mary's Hospital for Children, Carshalton, All unmarried.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—J.H.S. (male).

MANCHESTER: ANCOATS HOSPITAL.—General H.S.

MANCHESTER: ST. MARY'S HOSPITALS.—Resident Obstetric Officer for Whitworth Street West Hospital (Maternity).

MARGATE: ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—H.S. (male).

METROPOLITAN HOSPITAL, Kingsland Road, E.—(1) Senior H.P. (2) Senior H.S. (3) J.H.P. (4) J.H.S. (5) C.O. Males.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL.—Hon. Assistant S.

NEWCASTLE-UPON-TYNE EYE HOSPITAL.—Hon. Ophthalmic S.

PORT ELIZABETH HOSPITAL BOARD.—Medical Superintendent to Provincial Hospital.

PRINCESS LOUISE KENSINGTON HOSPITAL FOR CHILDREN, St. Quintin Avenue, W.—H.P.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.—R.M.O. for Isolation Hospital, Hammersmith, W.

READING: ROYAL BERKSHIRE HOSPITAL.—(1) H.P. (2) H.S. for Special Departments. (Ear, Nose, and Throat, Ophthalmic, X-ray). (3) C.O. (4) Resident at Branch Hospital of Recovery. Males.

ROCHDALE INFIRMARY AND DISPENSARY.—J.H.S. (male).

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—H.P. (male, unmarried).

ROYAL DENTAL HOSPITAL OF LONDON, Leicester Square, W.C.—Hon. Pathologist.

ROYAL EYE HOSPITAL, St. George's Circus, S.E.—Research Scholarship.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Great Portland Street, W.—(3) Four Surgical Registrars. Males. (2) Hon. Assistant S.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Medical Registrar.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.—H.P. (male).

ST. JOHN'S HOSPITAL, Lewisham, S.E.—(1) H.P. (2) C.O. Males.

ST. LEONARD'S-ON-SEA: BUCHANAN HOSPITAL.—J.H.S. (female).

ST. MARY'S HOSPITAL, W.—C.H.S.

ST. THOMAS'S HOSPITAL.—Associate Plastic S.

SHEFFIELD CITY.—J.A.M.O. (male) at City General Hospital.

SHEFFIELD RADIUM CENTRE.—A.M.O. in Deep X-ray Therapy and Radium Department.

SHEFFIELD ROYAL HOSPITAL.—Hon. Assistant S.

SHREWSBURY: ROYAL SALOP INFIRMARY.—C.O. (male, unmarried).

SOUTHEND-ON-SEA GENERAL HOSPITAL.—H.P. (male).

SOUTH SHIELDS EDUCATION AUTHORITY.—Ear, Nose, and Throat S.

STOCKPORT INFIRMARY.—H.P. (male).

SOUTHAMPTON: FREE EYE HOSPITAL.—Hon. Ophthalmic S.

TAUNTON AND SOMERSET HOSPITAL.—H.S. (male).

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—(1) Hon. Surgical Registrar. (2) Senior R.M.O. (male).

WEMBLEY HOSPITAL.—R.M.O. (male).

WYMOUTH AND DISTRICT HOSPITAL.—H.S. (male).

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Lerwick (Shetland), Earliston (Berwickshire), Cambuslang (Lanarkshire), Port Glasgow (Renfrewshire). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1, by October 16th.

This list is compiled from our advertisement columns, where full particulars are given. To ensure notice in this column advertisements must be received not later than the first post on Tuesday mornings. Further unclassified vacancies will be found in the advertising pages.

APPOINTMENTS

WILLAN, R. J., M.V.O., O.B.E., F.R.C.S., Lecturer in Surgery, University of Durham College of Medicine.

WILSON, Denis Smith Poole, M.B., M.Ch., F.R.C.S.Eng., F.R.C.S.I., Honorary Assistant Surgeon, Salford Royal Hospital.

LONDON COUNTY COUNCIL.—The following appointments have been made at the hospitals indicated in parentheses. *Assistant Medical Officers, Grade I:* E. B. Whittingham, M.B., Ch.B. (Liverpool), D.P.H., F.R.C.S. (St. Alfege's); T. J. O'Reilly, M.D. (Dub.), B.A.O. (Mile End); T. H. W. Ritchie, M.D. (Belf.), B.A.O. (Queen Mary's Hospital for Children); A. F. A. Gallen, M.B., Ch.B. (Glas.), Colindale; A. R. Mowlem, M.B., Ch.B., F.R.C.S. (St. James's); G. E. Breen, M.D., D.O.M.S. (Brook). *Assistant Medical Officers, Grade II:* J. Penry, M.R.C.S., L.R.C.P. (St. Charles's); A. Kahan, M.B., B.S. (St. Leonard's).

QUEEN'S HOSPITAL, BIRMINGHAM.—*Honorary Obstetrical and Gynaecological Surgeon:* W. E. Barrie-Adshad, F.R.C.S. *Resident Medical Registrar:* J. C. Heather, M.D., M.R.C.P. *Resident Surgical Officer:* Emyln E. Lewis, F.R.C.S. *Resident Surgical Registrar:* James Hardman, M.B., Ch.B.

WEST LONDON HOSPITAL, Hammersmith, W.—*House-Physician:* William F. Walton, M.R.C.S., L.R.C.P. *House-Surgeon:* Robert G. Reid, M.B., B.S. *House-Surgeon to Ear, Nose, and Throat Department:* Mark J. H. Thomas, M.R.C.S., L.R.C.P.

CERTIFYING FACTORY SURGEONS.—A. Leigh, M.R.C.S., L.R.C.P., for the Chester District (Cheshire); P. McDiarmid, M.B., Ch.B. Glas., for the Fochabers District (Morayshire).

BIRTHS, MARRIAGES, AND DEATHS

The charge for inserting announcements of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

MARRIAGE

PURVIS—HAWKINS.—On September 1st, at St. Mary's, Addington, Surrey, by the Rev. J. F. Nixon, assisted by the Rev. G. N. Brummitt, Raymond Purvis, M.B., F.R.C.S., second son of the late W. P. Purvis, M.S., F.R.C.S., and of Mrs. Purvis of Southampton, to Ruth Mary, youngest daughter of Mr. and Mrs. H. Charles Hawkins of Addington, Surrey.

IN MEMORIAM

BURY.—To the dear memory of Raymond Bury, F.R.C.S.I., Deputy Director of Medical Services, Tanganyika Territory, youngest son of the late Canon Bury, M.A., of Clontibret, Co. Monaghan, who died at Dar-es-Salaam on October 1st, 1933, aged 51 years.

ACCOMMODATION

The report states that despite financial difficulties satisfactory progress has been made in the development of the mental health services, and so far as public mental hospitals are concerned the position has distinctly improved. The aggregate number of patients in excess of accommodation in these hospitals has fallen from 1,717 on January 1st, 1933, to 843 on the first day of 1934. To a considerable extent this improvement is due to the new Middlesex hospital at Shenley, to which patients began to be admitted on January 1st, 1933. But although in general the shortage of beds which two years ago caused grave anxiety has now been materially reduced, in particular areas there is still overcrowding.

Referring to the boarding out of patients from mental hospitals the report says that "though the number of patients suitable for boarding out is necessarily limited, probably not much more than 5 per cent. and certainly less than 10 per cent. of the total, we regret that more extended use is not made of a form of care which is economical. It saves capital expenditure, and, if the patients are wisely chosen, is beneficial to the patients, since it enables them to live a more normal life than is possible within the curtilage of a mental hospital." An experiment, we learn, is being made in East Suffolk in boarding out from the mental hospital. At the end of the first six months twenty-five patients, elderly women, some of whom had been in the mental hospital for over twenty years, were placed out in the care of sympathetic and capable women guardians. The experiment is still in its early phases, but the Board says that it has been shown beyond doubt that even patients who are thoroughly institutionalized do appreciate and respond to normal surroundings and home life, in which, with hardly any exception, they have rejoiced. This may very well be the beginning of a widespread movement in favour of a system the benefits of which, as a supplement to hospital treatment, resulting in an increase in happiness and health to patients, a lessening of the burden on the public, and the release of hospital accommodation for cases urgently in need of it, were emphasized in this *Journal* as long ago as 1905.

OUT-PATIENT CLINICS

Of outstanding interest is the Board's report on the centres or clinics for the out-patient treatment of nervous and mental disorders, most of which have come into being since the passing of the Mental Treatment Act. While appreciating the valuable out-patient work of the mental hospitals themselves and at such centres as dispensaries and municipal offices, the Board describes the growth of clinics for the treatment of mental illness which form sections of the out-patient departments of general hospitals; and at which at least a share of the treatment is directed by members of the mental hospitals' staff. During the five years 1925-30, and excluding the London area, the twelve voluntary general hospitals thus linked to mental hospitals grew to twenty-five, and during the first year's working of the Mental Treatment Act thirty-five more were added. At the end of 1931 there were sixty-one general hospitals linked up for the purposes of out-patient treatment of mental illness with forty-nine mental hospitals, and at the close of 1933 there were eighty-five general hospitals linked up with sixty-seven mental hospitals. The methods and frequency of sessions vary in the different centres, and for this reason the report contains brief accounts of twelve separate clinics, their constitutions, attendances, and so on. It may be noted, however, still excluding London, that 10,000 cases were treated at these out-patient clinics during 1933, and that the attendances numbered 45,000. "Evidently," the Board continues, "another substantial step forward has been taken, and we believe that we have reached a stage at which adequate facilities for the out-patient treatment of nervous and mental diseases should properly be regarded as an essential and normal part of an area's mental health service."

MENTAL DEFICIENCY IN 1933

The mentally defective patients under care on January 1st, 1934, numbered 70,764 (males, 35,835; females, 34,929), giving a net increase for the year 1933 of 4,871, or for the ten years 1924-34 of 28,467. Included in these totals are the patients under statutory supervision, and those under guardianship or notified, who numbered 31,921 and 3,049 respectively.

The annual returns furnished by local authorities to the Board show that on January 1st, 1934, the number of defectives, whether "subject to be dealt with" or not, reported to these local authorities was 106,439, giving an increase over the preceding year's figures of 4,094. The growth in numbers and ratios to population in the defectives of whom the local authorities have taken cognizance during the decade 1924-34 is shown in a table, according to which the ratio per 1,000 of population has risen from 1.46 for the period 1924-6 to 2.65 for the period 1932-4.

This last ratio of 2.65 may be compared with the estimate of the Wood Committee of 4.52 per 1,000. Of the total number (106,439) reported to the local authorities, 78,438 (1.95 per 1,000) were reported as "subject to be dealt with," and of these 11,100 were in receipt of poor relief, including 4,018 receiving outdoor relief. This last fact is the subject of comment by the Board, which urges all local authorities to give the matter their serious consideration, since there are many reasons why financial help, if needed by mentally deficient persons, should be given through the mental deficiency rather than the public assistance committees.

The Board draws attention to a disquieting decrease in the number of children notified by local education authorities, and also to the fact that when mentally defective children leave ordinary schools (not special schools or classes) on attaining the age of 14 the local education authorities have no power to notify, while the mental deficiency authority has no power to act until the child is 16. There is thus a gap of two years to be bridged, possibly by amendment of the Act. It may be hazarded that the consequences of this hiatus would be much less serious if a common standard of "mental deficiency" were accepted by the two authorities.

The event of the year was the opening of the Hertfordshire colony for mental defectives at Cell Barnes with 600 beds. This is the second complete colony to be opened by a local authority, Hortham being the first. The actual cost of building (£299 a bed) is much below that of constructing a mental hospital. The total number of beds provided during the year was 2,254; and the Board says that steady progress is still being made in providing institutional accommodation for defectives.

DEFECTIVES IN MENTAL HOSPITALS

For many years mental hospital authorities have hoped that the operation of the Mental Deficiency Act would result in the transference of mental defectives in mental hospitals to mental deficiency colonies or institutions, thus restoring considerable numbers of hospital beds to their proper or better uses. The results of an investigation into this matter at certain mental hospitals is therefore of much interest and importance. The mental hospitals were Barming Heath, Chatham, Cheddleton, Stafford, Burntwood, Suffolk, Ipswich, Bridgend, Cardiff, and Swansea. The examination of the patients, who were selected by the medical superintendent as *prima facie* defective, was carried out by two medical commissioners of the Board. In all 2,007, or 17 per cent. of the total number of patients in these hospitals, were examined individually. Of these 1,692, or 14 per cent., were found to be mentally defective. Obviously not all could be expected to be fit for transfer to care other than provided in mental hospitals. But this indication that at least 12 per cent. of the patients in mental hospitals are suitable for transfer to mental deficiency institutions undoubtedly has an important bearing on the provision of mental hospital accommodation throughout the country as a whole.

INTERNATIONAL HEALTH WORK

[FROM OUR GENEVA CORRESPONDENT]

The praises of the Health Organization of the League of Nations have again been sung in the present Assembly. Delegates from a score of countries paid earnest tribute to the work done. The chorus was led by M. Borberg, Minister of Public Education for Denmark, who emphasized the important achievements in the field of biological standardization. The work of the second conference, held in London in June, he said, would be very useful to factories marketing vitamin products, as well as to the official laboratories engaged in inspection. The Commission on Biological Standardization, meeting in August in Copenhagen, had done some practical work by adopting for international use standard preparations and potency standards for the anti-gangrene, anti-pneumococcus, and anti-staphylococcus serums.

RURAL HEALTH SERVICES

Dr. Broekhuizen, the South African Minister at The Hague, mentioned that next year a conference is to be held at Capetown to discuss sanitary and medical services in rural districts, the health of natives and organization of medical services on their behalf, protective measures against the introduction of yellow fever, and prophylactic measures against plague and other diseases. South Africa, he said, attached great importance to this conference, and hoped that it would be pan-African. Sir Homi Mehta, the Indian delegate, acclaimed the pan-African congress as of great interest to India, which had participated in a previous congress at Capetown, and Mr. G. H. Shakespeare, M.P., for the United Kingdom, promised the support of his Government. Mr. Shakespeare also mentioned the value of collective study tours, such as that made in Poland in 1933, and thanked the director of the Health Organization for having organized a tour which would shortly enable British doctors to study the construction and arrangements of hospitals in other countries.

The malariological course recently organized at the Institute of Malariology at Rome was mentioned by Senator Cavazzoni of Italy, and M. Raphael spoke of the help rendered by the Health Organization to Greece in reorganizing its health services. He mentioned that Dr. Norman White had given five years' service to that country, and said that his name would always be linked with the creation of the School of Health, of which he had been a director. Professor Djüvara, from Rumania, said that the Health Organization had carried out in his country a number of studies and inquiries of the greatest scientific and practical interest. He mentioned particularly a study of the comparative efficacy of synthetic remedies and of quinine in the treatment of malaria. The Health Committee had sent Dr. Akroyd to Rumania to study, in collaboration with the Rumanian authorities, the problem of pellagra, and this collaboration was already bearing fruit. An experimental research centre had been opened near Jassy, and a fall in the incidence of the disease had already been observed among the groups of populations subjected to experiment. From Czechoslovakia M. Kunzl-Jizersky bore witness to the co-operation of the Health Organization with his Government in endeavouring to raise the standard of public health in Slovakia and sub-Carpathian Russia.

General Tanczos, the Hungarian delegate, referred to the usefulness of the study of rural health services. Hungary was co-operating in inquiries concerning the possible effects of the economic depression on health and nutrition; the Home Office in that country proposing to carry out an inquiry into the state of nutrition of 1,000 families living in rural districts. Dr. Pedro de Alba of Mexico mentioned large sanitary undertakings in his country in the shape of waterworks and drainage schemes, in which useful advice had been forthcoming from the Health Organization; and Dr. Chodzko, a former Minister

of Health for Poland, emphasized the importance of the Epidemiological Bureau, and the great medical, social, and commercial value of accurate news of epidemics.

Then came the representative of the Irish Free State, who said that his Government had drawn up a programme on which it was necessary to obtain technical advice of the highest quality. It had accordingly appealed to the Health Organization, which at once made a study on the spot of the problem to be solved. At the present moment the public health authorities in the Free State and the Health Organization of the League were co-operating in framing a scheme of rural hospitalization, and there was every ground for hope that a scheme would be created which would later serve as a model for other countries. M. Jules Gautier of France congratulated Dr. Rajchman, the head of the International Health Organization, on the fact that the organization had remained intact and was even expanding, notwithstanding the decrease in its financial resources. Representatives of China, Venezuela, Canada, and other countries were similarly complimentary, and a resolution was unanimously carried noting with satisfaction that the Health Organization had ensured the continuity of its essential work, while adapting its activities in such a way as to take account of existing economic and financial conditions.

SMALL-POX IN 1933-4

The July-August issue of the *Epidemiological Report of the Health Section of the League of Nations* contains, as it did last year, an informative alphabetically arranged survey of the recent incidence and mortality of small-pox throughout the world.

Egypt, in which there were 5,697 cases with nearly 1,000 deaths, was one of the most important foci in Africa. The disease was not uniformly and simultaneously present in every province, but followed an independent course in each. In 1934 the disease showed a definite decline, the number of cases in May and June being about one-fifth of those reported during the same months of 1933. In Central and East Africa there was a progressive decline in the disease in Tanganyika Territory and Nyasaland, whereas in the Belgian Congo the number of cases rose considerably, although the mild form predominated. In Morocco the small-pox endemic has considerably declined, and in Algeria and Tunisia the number of cases remains extremely low. As regards America, small-pox is on the decline both in Canada and in the United States, where the disease is rare in the densely populated States of the north-east, relatively high in the centre and south, and highest in the States of the Pacific and mountain areas. In Mexico, though it is on the decline, small-pox still causes thousands of deaths each year. In Asia, British India, in which the number of cases recorded rose from 115,000 to 250,000 in 1933, continues to be the primary focus, the increase being due not to any severe local epidemic, but to general spread of the disease. In China small-pox was frequent at the ports, especially Canton, Shanghai, and Hong-Kong, in 1933, and increase in small-pox incidence also took place during the first part of 1933 in Manchuria, Chosen, and Japan. In Persia small-pox incidence was considerably lower in 1933 than in 1932, and in 1934 than in 1933.

In Europe the most important foci, as in the previous year, were Soviet Russia, where the disease was of a severe type, but showed a lower incidence in 1933 than in 1932; Spain, where there was a marked fall in the morbidity in 1933 as compared with previous years, and the disease is mainly of the mild type; Portugal, where the mortality rate was 29.4 per cent. in 1933; and England and Wales, where only 631 cases were recorded in 1933, and 174 in the first six months of 1934. With the exception of an outbreak of variola major originating abroad, which caused twenty-four cases and three deaths at Blackburn between January and March, 1934, all the cases in England and Wales were of the mild type. As in the previous year, there were no cases in Australia, New Zealand, and the Pacific Islands in 1933 and the first half of 1934.

British Medical Journal

SATURDAY, OCTOBER 6th, 1934

ANTE-NATAL CARE AND OBSTETRIC DIPLOMAS

The recent discussion at the Bournemouth Meeting of the British Medical Association, on the results of ante-natal care, held jointly by the Sections of Obstetrics and Gynaecology and of Public Health,¹ rendered a public service by focusing attention not only upon the failure of ante-natal work to reduce maternal mortality but also upon the lack of order and of uniformity in this branch of obstetric service. Throughout the discussion there appeared to be tacit acceptance of the view that public health workers as well as obstetricians are deeply concerned with the problems for which a solution must be found before a national midwifery service can be organized on a durable and practical basis. The ideal that the mother should be under the care of the same individual medical attendant throughout pregnancy, labour, and lying-in received general acceptance; nevertheless it is at present realized only in exceptional circumstances, apart from private practice. Even in teaching hospitals and in the chief maternity hospitals the ante-natal clinic is usually conducted by junior officers who are not in charge of wards. The municipal hospitals are mostly in similar case. The mother has passed through the hands of three medical attendants, or it may be three sets of attendants, when she finally reaches the combined infant welfare and post-natal clinic. It is clear that considerable rearrangement will be necessary if the ideal of continuous individual supervision is ever realized in hospital practice, and it is to be remembered that the number of women who enter hospital for their confinement is continually increasing.

Of equal importance to organization is the attitude and outlook of the medical attendant. During the Bournemouth discussion it was acutely observed by Dr. Ethel-Cassie that "the obstetrician making himself responsible for ante-natal care should be as much a physician as a surgeon." The surgical bias which has in recent years been so much in evidence in obstetric teaching and practice is not an unalloyed benefit. Arising doubtless from the desire to apply surgical methods of antisepsis to midwifery, it has carried many of its adherents to the point of regarding the conduct of labour more and more as a surgical problem, to which surgical, that is, operative—methods can safely be applied. It is, however, in the main, the most important cause of the great increase in recent years in the proportion of operative deliveries reported from

The too surgically minded obstetrician tends to regard midwifery as a branch of surgery, believing that he can safely

cut his way through difficulties should they arise, the temptation to set little store by prevention is often irresistible. Nevertheless, it is undeniable that in ante-natal work a knowledge of medicine is of greater importance than the possession of surgical technique.

The ideal obstetrician, whether specialist or general practitioner, should be a man of wide and level outlook. There is something to be said for the view expressed at Bournemouth by Dr. G. F. Buchan that the obstetric service requires a new kind of specialist whose function would be "ante-natal care in its widest sense," the management of labour, and the "care of the mother and child for a period after birth." Specialists whose interest is divided, often very unequally, between gynaecology and midwifery, whose medicine has become rusty from disuse, and whose knowledge of the principles of infant care is elementary, are not fully equipped to take a controlling part in the ante-natal service of the country. This view was probably present in the minds of the advisers of the Society of Apothecaries of London when they established their mastership of midwifery, for they demanded evidence of post-graduate training not only in midwifery but also in infant management and in certain aspects of public health work; and, further, they obtained the assistance of representatives of public health and of paediatrics, as well as obstetricians, in conducting their examination. The Apothecaries' Society, in short, foresaw the need for the type of specialist which Dr. Buchan adumbrates. It is to be regretted that the two other obstetrical diplomas which have been launched since the mastership of the Apothecaries depart more or less widely not only from their forerunner but also from one another. It is a disservice to have three specialist examinations in midwifery based upon different views as to the training required of those who aspire to be entrusted with responsibility in the obstetric service of the country. If the three bodies concerned could agree upon basic requirements and formulate a joint scheme, the position would be greatly simplified for those who desire recognition, not as specialists, but as practitioners well equipped to deal with responsible obstetric work.

RESISTANCE TO INFECTIVE DISEASE

The science of genetics maintains a vigorous growth, and eugenics, as a social creed, does not lack prophets or disciples. No one, we may suppose, would seriously contemplate an attempt to deal with human disease in the foreseeable future by the elimination, along eugenic lines, of susceptible individuals, even if the laboratory worker had demonstrated beyond cavil that the adventure would be a hopeful one. But the same considerations do not hold in regard to our animal herds, from which man is so frequently infected. The breeding of a strain of cattle solidly immune to tuberculosis, or to bovine abortion, or to foot-and-mouth disease, might

be a project well worth serious consideration, if it could be shown to have any reasonable chance of success; and the results already attained along these lines in the virus diseases of plants suggest that it would be unwise to dismiss such a line of attack as inherently impracticable. Whether we approach the problem from the purely scientific angle, or with utilitarian possibilities in view, the first step is clearly to consider the evidence, and, if it justifies no verdict one way or the other, to set about collecting data of a fuller and more reliable kind. An admirable monograph by Dr. A. Bradford Hill, published in the Special Report Series of the Medical Research Council,¹ goes far to fulfil the first of these requirements, and so to allow us to form a reasoned judgement on the problem as it now presents itself.

That one animal species differs from another in its resistance to a variety of pathogenic parasites has long been known, and there can be no reasonable doubt that individual differences in resistance within a single species are due, in some part at least, to differences in genetic make-up. The existence of heritable differences in immunity, and the possibility of developing by selective breeding a strain that has a resistance greater than the average to some particular bacterium or virus, may be safely assumed. The problems at issue, as Dr. Hill emphasizes, are to assess the degree of resistance attainable along these lines, to determine whether it operates specifically, so that each important infective disease must be regarded as a separate exercise in eugenics, or more widely, so that we might reasonably hope to develop strains that would be immune to many of the infections that plague their unselected fellows, and, in particular, to obtain some measure of the relative efficacy of genetic selection as compared with natural or artificial immunization.

To almost all the questions that he asks he has to return the verdict "non-proven." The experimental data, on which alone a sound judgement can be based, are in practice extremely difficult to obtain. The obvious experimental method is to infect an adequate sample of animals with the micro-organism under study and breed from the survivors, repeating this process in each succeeding generation; and this is the line of procedure that has most commonly been followed. But it overlooks the awkward fact that the breeding stock is in this way infected *ab initio* with the organism concerned, and that congenital transmission of passive immunity from the infected does, and active immunization of their offspring by infections of varying severity, will be operative to an unpredictable degree. Several workers have simply ignored this difficulty, so that their conclusions are invalid. Others have striven to overcome it, sometimes with considerable success. Dr. Hill concludes that the more carefully planned experiments leave little doubt that a true genetic immunity can be developed, though the possibility of active im-

munization can seldom be excluded with complete certainty.

The grade of resistance that can be developed by selective breeding is, however, very difficult to assess. Several workers have listed as "resistant" animals whose only claim to that title was that they took rather longer to die of the test infection than unselected controls. Where the test has been the survival over a reasonably long period of a proportion of the infected animals the difference between the selected and unselected groups has often been small, though in a few instances it has been very large. Another puzzling feature of some of the records is the absence of an increasing resistance as one passes from one generation to the next through a long series of matings. It would appear, so far as these particular experiments are concerned, that a considerable increase in resistance in the first or second selected generation may be followed by no further improvement when the selective breeding is continued. In other instances the records show a continually falling mortality rate with increasing selection over a number of generations; but there is no evidence that, by selective breeding, a strain can be developed that is uniformly resistant to infection, even when the test of resistance is a single injection of the bacterium under study in a dose that fails to kill 100 per cent. of the controls.

In regard to the question of specificity the evidence is still more conflicting. Certain observations have been interpreted as indicating a genetic immunity operating over so wide a range that it is effective against a pathogenic bacterium, such as the mouse-typhoid bacillus, and a poisonous metallic salt, such as mercuric chloride. But many other experiments have given results that accord ill with this view, and indeed it seems inherently improbable if it is generalized to include genetic immunity as a whole, though it is reasonable enough to suppose that some genetic factors may determine characters that increase resistance to a considerable variety of harmful agents. It is probable, as Dr. Hill points out, that a large number of factors are involved, and that some of these may act non-specifically while others may be specific in the strictest immunological sense. The determination of the genetic characteristics of an animal in relation to its susceptibility to infection is, indeed, never likely to be a simple problem, for the protective mechanisms employed by an animal host are multiple and diverse. But the fact that a problem is difficult does not mean that it is insoluble, or that its solution is not worth attempting, and the particular merit of Dr. Hill's review is that it points out clearly and in detail why it is that many workers have failed to get significant answers to the questions they have asked. It might they were asking, and indicates the lines along which further experiments should proceed if more definite data are to be obtained. The author and the Medical Research Council are to be congratulated for their contribution to the literature of this subject.

¹ The Inheritance of Resistance to Bacterial Infection in Animal Species. Medical Research Council, Special Report Series, No. 196. London: H.M. Stationery Office. 1934. (1s. 3d. net.)

WHITHER MEDICINE?

Dr. Josef Loebel is of opinion that people complain that medicine is not progressing simply because it has progressed so rapidly that they themselves have been unable to keep pace. This is encouraging, and stimulates us to ask with him "Whither Medicine?" Can we learn from the past what the future of medicine is likely to be? This Dr. Loebel has attempted to do in a semi-popular style.

Though Hippocrates converted medicine from a magical cult to a method of observation, magic would keep "breaking through" again and again. Largely this is because the sick man craves for magic as his far-off ancestors did, but partly it is because up to the nineteenth century the doctor had so little apparatus to aid his observation. He must have depended mainly on mother wit and shrewd intuition. His cures must have emanated chiefly from his own personality, as indeed they still do in some degree. Osler used to ask students by what means a patient suffering from cancer of the stomach might be induced to gain 20 lb. in weight, and had to supply the answer himself: "The only way of working the miracle is to have an optimistic doctor." With the introduction of cellular pathology, humours and diatheses were relegated to the limbo of superstition. Virchow declared that "there is no such thing as a sick body that is disordered in all its parts. I maintain that no doctor can systematically think of a morbid process unless he is able to assign to it a place in the body." The part became for him greater than the whole. But with the discoveries of serology and endocrinology, humoral pathology and diatheses came creeping back, though with new and more scientific attributes. The individual again began to count for something. As Dr. Bernard Hart has said, he was no longer regarded as "the uninteresting vehicle of a fascinating disease process." Still more did this become true when "the breach was made in the Great Wall of psychology by doctors." One might claim, though the claim would be fiercely resisted in academic quarters, that psychology has gained as much from medicine as medicine has from psychology. Yet it is true that the dualism of mind and body has broken down under the assaults of psychologically minded physicians, and disease and unhappiness alike can be seen as the resultant of forces in the individual and his environment. The psychiatrist and the biochemist can find a common meeting ground in the fact—long suspected, but now, as a result of Sir Henry Dale's work, capable of being enunciated as a general law—that all nervous mechanisms produce their effect through the intermediary of chemical substances. This new synthesis of mind and body, this conception of the individual as a dynamic entity, is the outstanding achievement of twentieth century medicine, and will greatly influence its future.

These are reflections aroused by Dr. Loebel's book rather than a paraphrase of its contents, though we

¹ *Whither Medicine?* By Dr. Med. Josef Loebel. Translated from the original German by L. Marie Sieveking and Jan Morrow. London: Sidgwick and Jackson Ltd. (7s. 6d. net.)

have quoted some salient passages. The author has evidently enjoyed writing it, and succeeds in conveying that enjoyment to the reader. His enthusiasm for his subject makes one lenient towards the somewhat journalistic manner in which he presents his case; but it is a pity that he has allowed certain inaccuracies to creep in. Thus artificial pneumothorax is not an adaptation of war-time gassing, nor does a good climate depend on the air containing plenty of oxygen. The oestrogenic substance in coal did not get there thousands of years ago from the bodies of women—the coal measures are older than Eve. It is not correct to say that the importance of the parathyroid glands has not been discovered at all yet. Do any morphologists to-day regard the invertebrate nervous system as surviving in the sympathetic nervous system alone? Scrotal secretion is not a happy description of the treatment Brown-Séquard employed on himself, and one can hardly agree that St. Francis of Assisi was "gloomy by temperament." When Dr. Loebel quotes the late C. B. Lockwood as saying "that it was unnecessary for a surgeon to clean his nails before operation, because a gentleman does that sort of thing at home," we fear that he was misled by Lockwood's sardonic humour in taking this as evidence that he was opposed to antisepsis. For it is certain that he made a practice of having cultures taken from clippings of the nails of all those whose hands came into the operation area, and was a convinced advocate of a rigid aseptic technique.

RADIOLOGISTS AND HOSPITALS

In the *American Journal of Roentgenology* for July there is an important editorial article dealing with the position of radiologists, and incidentally with that of clinical pathologists, in relation to hospitals. It contains a clear statement of the principles that should govern those relationships, and may usefully be compared with the two appendices, G and H, in the Hospital Policy of the British Medical Association, which are concerned with the same matters. Hospital developments in America, and, in general, developments of what is called the "corporate practice of medicine," are not on exactly the same lines as those in this country; but there can be no difference in the principles in accordance with which progress should be guided and encouraged. The enunciation of these principles and the statement of the methods by which they should be carried into effect in connexion with radiology and chemical pathology were found by the Hospital Committee and the Council of the B.M.A. to be matters of great difficulty. Their consideration occupied much time over a period of several years, though ultimately the paragraphs of the appendices above mentioned were generally agreed to and have, in fact, so far as they have become operative, worked reasonably well. No doubt before very long they will be the subject of revision and may be found to require modification, and in this connexion a clear statement of the American position and a careful study of American experience will prove of value. The exploitation of service in the two fields under considera-

tion, whether as commercial ventures by business organizations, or by universities, hospital boards, and local authorities, is a real danger both to the legitimate development of private practice in these directions and to the independent and scientific status of radiologists and pathologists as members of the staffs of hospitals. As the article under notice says: "We have a right to expect the entire profession to uphold the pathologist and radiologist in their efforts to remain free practitioners of medicine. Any other course can result only in damage to both the profession and the public"; and again: "That other branches of the profession now feel comparatively safe is no reason why they should remain inert or actually assist hospital corporations to take over and control these particular specialties." Alarm is expressed in the article at a recent proposal to separate the technical aspects of radiology from its professional aspects, the hospital being responsible for all that pertains to technique and making, an appropriate charge therefor, while the medical radiologist charges his fee for his professional services. Surely, however, as a financial arrangement there can be no fundamental objection to such a method. It is, of course, true that the technical part of the work is essential to the success both of the radiologist and of the pathologist, and that this has been brought to its present state of development only by constant interest and attention; but the essential thing to be safeguarded is that the professional standing of the head of the department should be fully recognized and his complete control over the working of his department guaranteed.

NEW DRUGS FOR OLD

The annual report of the American Medical Association's Council on Pharmacy and Chemistry,¹ to which we referred on August 4th (p. 217), is of interest, since it provides a convenient summary of recent advances in proprietary drugs. Advertisements of these drugs descend upon the doctor's breakfast table with the steady persistence of falling snow, and most of the recipients must wonder from time to time what real therapeutic advance is represented by all this activity. The A.M.A. publishes annually a volume entitled *New and Non-Official Remedies*, and preparations are only admitted to its pages if they comply with certain simple though searching requirements. Some of the chief specifications are that there must be no secrecy associated with the preparation; it must represent a genuine therapeutic advance, and the claims made for it must be reasonable and supported by adequate evidence. These rules are well known, and hence only preparations of a certain standing are likely to be submitted to the council which has the duty of deciding their fate. An analysis of the table of contents of the report makes interesting reading. It was decided to admit in future antipneumococcus sera containing Type II antibodies, which had been omitted in 1924, judgement was suspended on six articles, and about fifty others were declared non-acceptable. At the same time it was decided to omit ten articles that had been accepted in previous years. This summary suggests pessimistic conclusions regarding the probable value of new pro-

prietary preparations. It must be mentioned, however, that the group on which judgement was suspended is important, since it includes the oestrogenic hormones, dilaudid and fuadin. The A.M.A. report states "the results of an impartial but critical estimate of the value of a large sample batch of new proprietary articles, and these findings suggest that the odds against such an article representing a serious therapeutic advance are somewhere about 100 to 1."

CEREBRAL CORTEX AND GASTRO-INTESTINAL MOTILITY

The localization of the cortical areas controlling peripheral functions and activities always presents a fascinating problem to the neurologist and physiologist. Whereas, however, our knowledge of the cortical representation of motor and sensory functions associated with the cerebro-spinal nervous system is very extensive, it is much less so in the matter of the autonomic system. Much has been done in tracing controlling centres of autonomic function in the region of the hypothalamus, but cortical representation is still only vaguely understood. The matter of cortical control of intestinal movements has recently been reopened by Watts and Fulton.¹ In their article these authors give a short but interesting account of former work in this field. As long ago as 1876 Bochefontaine found that electrical stimulation in the region of the dog's sigmoid gyrus usually diminished or completely inhibited gastric rhythm, but sometimes this inhibition was preceded by strong peristaltic movements. These results seem to indicate that there are both motor and inhibitory cortical points for the stomach. Later work by Hlasko also gave evidence of inhibitory points in the cortex, and, in addition, he obtained contraction of the stomach wall by stimulation in the region of the corpora quadrigemina. Several workers have found that decerebration posterior to the thalami produces very active peristalsis in the cat's intestine, again indicating the probable existence of inhibitory control in the cortical regions (the question of irritation through the section could be ruled out). In 1888 Pal and Berggrün observed that stimulation of the vagus produced contraction of the pylorus but only slight peristalsis of the small intestine; on cutting through the medulla and then stimulating the vagi, vigorous intestinal peristalsis occurred even when, as we now know, the irritation from the transection had certainly passed off; indeed, the authors state that stimulation of the vagi immediately after the transection did not lead to a positive result, which they interpreted as due to irritation of the inhibitory fibres. The inhibitory influences could also be removed by section through or anterior to the thalami or by extirpation of the sigmoid gyri. This and other work made it probable that the cortex was mainly concerned with inhibition of the gut movements. Watts and Fulton were led to a consideration of the problem from the fact that routine post-mortem examination of a series of monkeys which had been subjected to various brain operations revealed an unusually high incidence of intussusception. Three healthy monkeys died with intussusception and obstruction after bilateral removal of the anterior portion of the pre-motor cortex: the incidence of intussusception in unoperated monkeys was

¹ American Medical Association, 535, North Dearborn Street, Chicago, 1934.

² *New England Journ. Med.*, April 26th, 1934.

two out of 300 necropsies. Faradic stimulation of the pre-motor cortex led to active intestinal peristalsis, and in some cases to well-marked multiple intussusceptions. Intermittent stimulation of the same cortical region over a period of several hours also resulted in intussusception. Application of the stimulating electrodes to the motor cortex itself led, of course, to vigorous muscular responses but did not influence the intestinal movements, a common observation and one readily to be inferred from the fact that cortical centres for the gut have not been previously localized. The more or less reciprocal functions of the gut wall and the sphincters were demonstrated in that pre-motor stimulation at certain points relaxed the stomach sphincters. Section of the vagi prevented the formation of intussusception during pre-motor stimulation, but some increase in peristalsis still occurred—a point of very considerable interest. Thus these workers demonstrate that intussusception may result both from removal of the pre-motor cortex and from stimulation of this area. The conclusion seems justified, therefore, that the gut has autonomic representation in this part of the cortex, and that this representation includes both excitatory and inhibitory components. The pathways of excitation and inhibition have not yet been worked out, but the classical view of the vagi and the splanchnics is not likely to be assailed. What may accrue is the existence of additional pathways and possibly association paths between the higher centres and the intestinal centres. Perhaps even some explanation on anatomico-pathological grounds will be forthcoming of the extraordinary restriction of intussusception to children of less than 5 years and its much greater frequency in males.

WELFARE OF THE BLIND

The eleventh report of the Advisory Committee on the Welfare of the Blind to the Minister of Health deals with the year 1933-4.¹ The number of blind persons in receipt of pensions under the Act of 1920 shows a steady increase from year to year, and the cost of these pensions is now £553,000 per annum. Reference is again made to the need for securing, before a person's name is added to the register, an examination by a medical practitioner with special experience in ophthalmology, and by him certified to be blind within the meaning of the Blind Persons Act. So far, as a result of representations by the Minister, thirty county councils and sixty-seven county borough councils have made provision for expert examination before registration, and it is understood that thirty-eight others follow the same practice. The supervision of the work done for the blind is now in the hands of the local authorities under the Act of 1929. Before the coming into operation of that Act the inspectors of the Ministry were responsible for systematic inspection of the work of the voluntary associations. The local authorities must now satisfy themselves as to the efficiency of the services towards the cost of which they have to contribute. In many cases an officer of the local authority exercises the supervision. In the area of the Northern Counties Association a regional supervisor appointed by that body is acting for nearly all the local authorities. This officer is engaged upon a detailed inquiry

into the administration of the work of the voluntary associations, drawing attention to any defects and making recommendations for improvement to the appropriate local authority. By this means the local authorities of the area obtain the advice of a specialist in supervising their services for the welfare of the blind. The register of the blind showed a total on March 31st, 1932, of 62,079. At the same date 1933, the figure was 63,408, of whom 244 were under 5 years of age and 2,089 between the ages of 5 and 16 years. The increase is in the later adult years.

INDUSTRIAL HEALTH RESEARCH

The fourteenth annual report of the Industrial Health Research Board¹ indicates that steady progress is being made in most of the lines of investigation described in previous reports, but it is pointed out in the introduction that in the Board's work more stress is now being laid on problems of health and mental fatigue, while researches relating to the physical fatigue induced by the expenditure of excessive muscular energy in heavy industries are less prominent. In order to make adequate studies of the kind of ill-health to which the workers in various occupations are liable, it is important to obtain physiological data about the normal physical fitness of the population. This is by no means easy. The workers are apt to object to examination, as they are afraid that the discovery of physical unfitness may lead to dismissal or to reduction of compensation under the Workmen's Compensation Act. Again, the sickness-recording systems under the National Health Insurance Act leave much to be desired from the point of view of the scientific worker. The numerous approved societies frequently do not know the occupations of their members nor the factories where they are employed. Nevertheless, it has been found possible to get reliable data in certain specific instances in the cotton and printing industries, while inquiries are now in progress into the alleged high incidence of gastric disorders among bus drivers, and of the effect of dust inhalation on haematite ore workers. An extensive survey of the physique of women has already been published, and one on the height, weight, and strength of a group of 10,000 men—including a sample of unemployed—has now been completed. The investigations on mental fatigue include extensive inquiries into the factors producing contentment and efficiency in women engaged on repetition work, with special reference to the reactions of character and temperament to the boredom entailed by such work. A large number of workers engaged in continuous production on conveyors have been observed, and have been tested by individual interview. Boys leaving school, Royal Air Force apprentices, and men in the Royal Corps of Signals and other branches of the Defence Services have been examined from the point of view of vocational suitability, and it has been possible to collect much valuable knowledge concerning the effect of psychological reactions on occupational efficiency. The work previously done on accident proneness has led to requests being made for the application of the tests to motor drivers, who are now being

¹ London: H.M. Stationery Office. 1934. (41.)

¹ Medical Research Council. Fourteenth Annual Report of the Industrial Health Research Board, to June 30th, 1934. London: H.M. Stationery Office. 1934. (9d. net.)

submitted to these tests in three large transport companies and in two branches of the Army employing lorry drivers. A study of environmental conditions shows that good lighting has a marked influence on the output even of workers engaged in occupations such as tile-pressing, which make little demand on visual capacity. The effects of noise have been investigated in two groups of weavers over a period of twelve months, and it was found that the performance of the group wearing ear-defenders was appreciably better than that of the control group. Work on the physiology of heating and ventilation includes determinations of the best methods for measuring skin temperature and radiant heat.

SUBCUTANEOUS HAEMOSTASIS IN OPERATIONS

J. Riese,¹ noticing that vessels in the skin and superficial fascia which have been divided in a surgical incision soon cease to bleed if left undisturbed, and that in such a case the healing of the wound is particularly good, recommends that these vessels should not be injured by the customary ligature, suture, or clamping. By such avoidance of tissue trauma he has reduced the percentage incidence of pus formation in the operation wound from 4 to 0.7 per cent. At the same time his proportion of post-operative haematoma increased from 4.5 to 5.5 per cent., but Riese regards haematoma formation as tending to prevent rather than favour infection. Severe bleeding after operation was noted only once in over 2,000 cases treated without artificial subcutaneous haemostasis, and in this instance came from the inferior epigastric artery. With the same purpose of avoiding injury to the tissues, Riese has abandoned the firm bandaging of wounds, and makes minimal use of drainage (except after pleural and thyroid operations). A large haematoma is punctured laterally to the suture line, or if it has opened spontaneously it is emptied and the surfaces at the place of perforation are resewn.

GORDON MEMORIAL COLLEGE, KHARTUM

The latest report of the manifold activities of the Gordon Memorial College at Khartum reflects the great progress made in 1933. Of more special medical interest is the account of the work carried on at the associated Wellcome Tropical Research Laboratories. Facilities granted to the bacteriological section for conducting all the post-mortem examinations in the Khartum Civil Hospital have resulted in further additions of valuable pathological material to the museum, the training potentialities of which have thus been enhanced. It will be recalled that the college is run on secondary school lines, with emphasis on medical and scientific training, and in co-ordination with the local medical curriculum. The museum has now a collection which is fairly representative of most of the tropical and other diseases occurring in the Sudan. The exhibits have been catalogued with descriptive clinical and pathological data, and are proving valuable for the teaching of pathology. Owing to financial stringency the malarial investigations in the Gezira had to be terminated last March. Work already done has established the danger of borrow pits in villages as primary breeding places

of the malaria-carrying mosquito during the rains, and its preference for the sunlit collections of waters in the Abu Isherin and Abu Sitta canals, and less frequently in the dawrans at later periods of the year. Dissections of adult female mosquitos collected near native habitations showed 2 per cent. infected during the most malarious months. Children up to the age of 12 appear to be the main reservoirs of infection, and represent 75 per cent. of the gametocyte carriers in the district. Another series of tests, continued for a year, showed that there was a seasonal period of a few months for the presence of gametocytes in the blood. This important observation requires checking by future investigations, since it indicates a possible line of control by intensive gametocyte therapy during those few months. Sufficient data have also been collected for the publication of a paper on the epidemiology and endemiology of bilharziasis in the Sudan. Ample proof was forthcoming that the canals in Egypt maintain their own constant supply of molluscs; and thus negative the view constantly expressed in the Egyptian press, that the Sudan is responsible for the spread of bilharziasis in Egypt. Berries of the tree *Balanites aegyptica* have been found useful for destroying these molluscs, which are carrier hosts of bilharzia; they can also be employed for the elimination of the water-flea cyclops, which is the carrier of guinea-worm. Other local trees and shrubs probably possess active principles of medicinal or commercial value. Chloramine in a strength of 2.6 parts per million killed bilharzia molluscs in twenty-four hours; a weaker solution of 1.3 parts per million destroyed cyclops in six hours. These dilutions had no effect on mosquito pupae. The College administration was altered during the year to improve the teaching and research from the lowest classes up to the allied Kitchener School of Medicine.

By an Order of the Committee of Privy Council, made after consultation with the Medical Research Council, and with the President of the Royal Society, Professor A. J. Clark, M.D., F.R.S. (Professor of Materia Medica in the University of Edinburgh), and Professor J. C. G. Ledingham, M.D., F.R.S. (Director of the Lister Institute of Preventive Medicine, and Professor of Bacteriology in the University of London), are appointed members of the Medical Research Council in succession to Sir Charles Sherrington, M.D., F.R.S., and Dr. A. J. Arkwright, F.R.S., who retired in rotation on September 30th.

Lord Macmillan of Aberfeldy has been appointed a trustee of the Beit Memorial Fellowships for Medical Research in place of the late Sir James Kingston Fowler. The other trustees are: Sir Alfred Beit, Bt., the Right Hon. W. Ormsby Gore, M.P., the Earl of Onslow, Lord Rayleigh, F.R.S., Dr. Edwin Deller, Principal of the University of London, and Sir John Rose Bradford, Bt., M.D.

The Annual Conference of Representatives of Local Medical and Panel Committees will be held on Thursday, October 18th (and, if necessary, Friday, the 19th), in the Great Hall of the British Medical Association's House, Tavistock Square, London.

¹ *Zentralbl. f. Chir.*, June 9th, 1934, p. 1342.

OPENING OF NEW SESSION: AUTUMN DINNERS

ST. THOMAS'S HOSPITAL

About 150 past and present students of St. Thomas's Hospital and other guests attended the annual dinner at Dorchester Hotel on September 28th. The chair was taken by Dr. W. L. WAINWRIGHT, who, in proposing the health of the hospital and medical school, referred to the changing conditions of medical practice, and to the likelihood that in future no medical man would work as an independent unit, but only as a member of a group. He also commiserated present-day students on the complexity of medical training. When he himself was a student there were only about two textbooks on medicine: what they said was gospel, and what they did not say did not matter to anybody! To-day things were done much better scientifically, but the students did not have such a good time as their predecessors.

Sir ARTHUR STANLEY, treasurer of the hospital, referred to the reconstruction of the out-patient department, which, he said, was proceeding according to plan: Half of it had been completed, and in addition to the dispensary and the hall, the medical examination rooms had been opened during the past few months. The remainder of the work was going forward, and he hoped that by August of next year, or even before then, it would be possible to arrange a formal opening of the whole of the out-patient department, which, instead of being like the old department a disgrace to a modern hospital, would be an object of pride to all associated with St. Thomas's. This work had been made possible by a gift of £20,000 made many years ago by the father of the chairman. By the time it could be used the sum had been more than doubled, and then, the money having been invested in Local Loans, the Government conversion scheme enhanced its value by about 30 per cent., and it was possible to undertake the work without incurring further debt. The reconditioning of the wards was also being carried out, and only two blocks now remained to be done. Another important matter to which attention was being given was the improvement of the accommodation and comfort at College House.

Professor LEONARD S. DUDGEON, dean of the medical school, mentioned that a scheme had been mooted for building a new medical school for St. Thomas's on the other side of the road, together with a new out-patient department, at a cost of something like a million had the work been carried out in its entirety. Fortunately, in his view, the unsettled state of affairs generally had prevented that scheme from maturing, and the school remained where it was, and the improvements to the hospital had been carried out as indicated. St. Thomas's was benefiting from the liaison between the voluntary and municipal hospitals, and had arrangements with the council hospitals at Lambeth and at Wandsworth. Speaking of the losses by death which the school had sustained during the year, Professor Dudgeon referred specially to the death of Sir George Makins and to the memorial that had been installed in his memory. Some criticisms had been made of the bust, but he thought it succeeded in representing Sir George, as they wanted to remember him, exactly as he was in life. After referring to other bereavements and to changes due to more pleasant causes Professor Dudgeon went on to remark that one of the greatest achievements in the medical school world of London for many years was the co-operation now taking effect between the great medical schools of Guy's, St. Bartholomew's, and St. Thomas's. There now existed an executive committee formed of five members from each school; co-operation on the clinical side was actually taking place between St. Bartholomew's and St. Thomas's, and probably within a year or a little longer Guy's would join in. He concluded by toasting the health of the guests, to which Mr. W. GIRLING BALL, dean of St. Bar-

tholomew's, responded, and remarked that the co-operation between the three medical schools referred to was bound to succeed in view of the personality of their respective deans. The health of the Chairman was proposed by Sir CUTHBERT WALLACE, and the Chairman's brief reply closed a very pleasant evening.

MIDDLESEX HOSPITAL

The annual dinner of the Middlesex Hospital Medical School was held at the Savoy Hotel on October 1st, when Dr. E. A. COCKAYNE presided over a company numbering three hundred. The Chairman gave some account of the rebuilding of the hospital and school. When the past and present students assembled a year ago, he said, the west wing of the building was built and occupied, but the site of the crosspiece and the east wing was a yawning pit surmounted by girders. The girders had now been clothed with stone, and the whole building had been roofed over. The completion of the rebuilding programme was in sight; it was expected to raise the outstanding sum of between £80,000 and £90,000 before the end of the year, the final contracts had been signed, and he hoped that his successor in the chair on the next occasion would be able to announce that the whole of the "new Middlesex" was functioning. A generous gift from Lord Woolavington had made it possible to proceed with the paying patients' block, for the accommodation of people unable to meet the heavy costs of a private nursing home and too well off to occupy fittingly the beds dedicated to the poor. This paying block was opened early in the present year, and had proved an unqualified success. Last year Mr. COLLINS had given the large sum of £30,000 for an x-ray diagnostic department. Plans for this new department had been carefully drawn up, and he believed that in equipment it would be second to none in this country, or perhaps the world. Then Mr. S. A. COURTAULD, who had been one of the great benefactors of Middlesex in the past, had crowned his long series of gifts by one of £15,000 for fitting up the first portion of the crosspiece of the new hospital as a unit for clinical research. This would be a new departure in hospital practice, and he believed that Middlesex would lead a way along which many others would follow. Here the professors of biochemistry and pathology would keep in close touch with members of the honorary staff. Another generous gift was that of Mr. MEYERSTEIN, who had given over £30,000 for the provision of a unit or department of x-ray therapy, to complement the diagnostic unit. The new clinical theatre, which would be of the greatest value to the school, would be completed early in the new year; the department of x-ray diagnosis would be ready by February or March, and the department of x-ray therapy before the summer.

Mr. S. A. COURTAULD, chairman of the school council, spoke of the admirable character of the lay-out in the paying patients' block. Two near relatives of his own had been patients, and had told him how delighted they were with what was provided. With regard to the research unit, for which he himself was partly responsible, the conception was not his own, but it appealed strongly to him because it would bring the actual personnel of the scientific staff of the medical school almost to the bedside of the patient. The clinic ought to be in operation this side of Christmas.

Dr. H. E. A. BOLDERO, dean of the school, said that the numbers entering were almost an embarrassment, and many would-be students had had to be disappointed this year. He added some further details about the clinical research unit, which would give Professors McIntosh, Dodds, and Wright a share in the treatment of certain patients, directly in co-operation with, and equal in

CHARTERED SOCIETY OF MASSAGE AND MEDICAL GYMNASTICS

The sixth annual dinner of the Chartered Society of Massage and Medical Gymnastics was held at the Café Royal, London, on September 26th, when Mr. R. C. ELMSLIE presided over a very large attendance of members and guests.

Dr. A. H. DOUTHWAITE, in proposing the health of the Chartered Society, said that in its earlier years it was, though enthusiastic, small, and received very little support from outside. The war brought about an appreciation of the value of massage, the demand for masseurs and masseuses increased, and with it the supply, perhaps in excess of the demand. By 1920 the society had a membership of 3,000; it then amalgamated with the Manchester society, and at the present time its membership stood at 9,000. The medical profession, said Dr. Douthwaite, had not always recognized the value of the masseur and the masseuse in helping to restore patients to health, and one of the indirect results of what might be termed "the apathy of the medical profession in this matter" was that the osteopath and similar practitioners had flourished exceedingly. The position was now fast improving, and, thanks to the growing appreciation of the medical profession, there was an increasing demand for the services of the members of the society. In large measure the change was due to the president, Mr. Elmslie, who had worked with astonishing enthusiasm in its interests.

Mr. R. C. ELMSLIE, in responding, said that it was now becoming the custom for medical practitioners to have a list of names of members of the society whom they were ready to recommend to such of their patients as needed this service. A reference had been made at the dinner the previous year to the fact that, in conjunction with the British Medical Association, steps were being taken to form a register of all engaged in this class of work. Further discussion had shown that in order to establish such a register there must be powers to insist upon certain qualifications, and to remove names from the register following upon misbehaviour. A legal basis was therefore necessary, and with this object a memorandum and articles of association had been drawn up and submitted to the Board of Trade. The Board of Trade, however, had turned the scheme down, and had suggested that an attempt should be made to proceed without such legal authority and see what could be achieved. In their own view that was of no use; there must be legal authority if the scheme was to be made effective alike in the interests of the members of the society, the medical profession, and the public. It was essential that all who did this work should be fully qualified and certificated, and he was glad to hear from the Medical Secretary of the British Medical Association that the suggestion of the Board of Trade was not to be the end of the matter, and that further steps would be taken. The Chairman then referred to certain events of the year.

The toast "The Guests" was proposed by Miss S. GRAFTON, and in the course of his response Sir HOLBURN WARING, President of the Royal College of Surgeons of England, commented on the efforts that had been made to obtain a charter which would bring in other branches of treatment and embrace radiographers and others. This, he said, was a thorny subject. There were those who were desirous of obtaining a special Act of Parliament which would enable a registering body to be set up, with powers of examination, licensing, and discipline, but it appeared to him that the best course to pursue was to approach the General Medical Council and see whether some general legislation could be obtained which would bring in the ancillary branches under one control, the primary authority being exercised by the General Medical Council. Mrs. GILMOUR REID, president of the Australasian Massage Association, who also responded, spoke of the difficulties with regard to registration in Australia. Registration existed in South Australia and Victoria, but not in New South Wales. A registration scheme for the whole of Australia would result in a great improvement of the position.

Nova et Vetera

THE PICTURE OF HENRY VIII PRESENTING THE ACT OF UNION TO THE BARBERS AND SURGEONS IN THE POSSESSION OF THE ROYAL COLLEGE OF SURGEONS

The story of the picture of King Henry VIII presenting the Act of Union to the Barbers and Surgeons now in the collection at the Royal College of Surgeons of England, and how it came into possession of the Company of Surgeons in 1786, is one of interest, and is not perhaps generally known.

The account of its acquisition by the Company is thus recorded in the minutes of the Court on July 6th, 1786.

"The Master informed the Court that in a sale of pictures by Monsieur Desenfans, a large capital picture was exposed to sale being a cartoon painted by Hans Holbein representing King Henry VIII delivering the Charter to the Barber-Surgeons in the year 1535 and having examined the same and being satisfied of its undoubted authenticity and that it was the original picture of that subject, and Mr. Grindall having also examined it and being of the same opinion, and thinking such an opportunity of procuring the possession of such a picture should not be missed and being of opinion that the same might be procured for a reasonable price, they had treated for the purchase and having reduced the terms to fifty guineas they had purchased the same on the account and for the use of the Company, and the Court of Examiners had issued the price of it out of the Company's cash."

A later minute records: "Resolved, that the Court doth highly approve of the conduct of the Master and Mr. Grindall upon this occasion and returns them thanks for their attention to the concerns of the Company."

Soon after the picture was purchased the Company decided to have it cleaned and restored, and a Mr. Lloyd was engaged to carry out the work. He demanded £400, but was eventually beaten down to fifty guineas.

When the College of Surgeons was formed the picture was removed to the new building in Lincoln's Inn Fields in 1806, where it still remains part of the fine collection of pictures in the possession of the College. Some twenty years later William Clift, the Conservator of the Museum, being dissatisfied with its condition, decided to attempt to clean it himself, and in so doing discovered to the right of the background a casement with a view beyond it of a steeple, an embattled tower, and the roofs of gabled houses. He thought that the steeple was that of St. Bride's, Fleet Street, but a further examination revealed two steeples as well as the tower, and it was suggested that the taller of the two could be no other than the old wooden steeple of Old St. Paul's, which was struck by lightning and burnt down in 1561. If this be the case the view seen through the casement must have been painted before that date.

The Rev. E. G. O'Donoghue, who examined the picture in 1918, was of the opinion that the steeple was that of Old St. Paul's and the square tower St. Augustine's, which stood to the east of the cathedral at the junction of Old Change and Watling Street.

The building in which the ceremony took place was originally thought to be Bridewell, but it has been pointed out that the palace was not begun until 1522, and it was scarcely habitable in 1540. King Henry rarely visited it after 1529, and it is therefore probable that Baynard's Castle, which was used as a Royal Palace at the time, may have been the scene of the ceremony. According to Dr. Ganz, it is "the same chamber with the same hangings, probably the throne room at Whitehall as in a large picture at Hampton Court. It is possible that the King may have sat for the picture at Whitehall, and that Holbein made use of the surroundings at his hand, but the view from the

window seems to indicate that the room represented was in Bridewell."

It is in the window and other details that the picture in the possession of the Royal College of Surgeons differs from that still hanging at Barbers' Hall in Monkwell Street, attributed to Holbein. For a long period the latter picture was supposed to represent the granting of the Charter by the King to the Barber-Surgeons, but Mr. Sydney Young has shown this to be incorrect. In his opinion the picture exhibits a Charter with the Great Seal pendant. He points out that the King was but 21 years of age in 1512 and was 49 in 1540, which latter age accords with the picture. Moreover, Vicary, Ayleff, Harman, and the others represented, were members of the Court in the latter year, but not in 1512.

Vicary, who is depicted as receiving the instrument, was Master from September, 1541, to September, 1542. There is every probability that the painting was executed during his term of office, and that is why Holbein paid him the compliment of putting him in the chief position in the picture. These considerations are sufficient to demolish the Charter theory, and point to the hypothesis that it is the Union of the Barbers' Company with the Guild of Surgeons, accomplished by Act of Parliament in 1540, which is commemorated. "The King is represented as being about 50, and on the left are Dr. John Chambre, Dr. Butts, and behind him Thomas Alsop, the Royal Apothecary. The tablet on the wall with its inscription is said to be of a later date than Holbein's work, and is said to have painted over a window." The following is a translation of the Latin inscription:

"To Henry the Eighth, the best and greatest King of England, France, and Scotland. Defender of the Faith and next to Christ supreme head of the Church of England and Ireland, the Company of Surgeons dedicate these with their united prayers.

A grievous plague had ravaged the region of England,
Afflicting man's spirits and penetrating his frame,
God, pitying from on high this remarkable scourge
Commanded thee to perform the office of a good physician.

The light of the Gospel flies around on glowing wings,
This will be the balm to enfeebled minds;
Whilst the disciples of Galen meet to raise a monument to thee,
And all disease is swiftly dispelled by thy power.

We therefore, a suppliant band of thy physicians,
Solemnly dedicate this house to thee,
And mindful of the favour with which thou, O Henry,
hast blessed us,
Invoke the greatest blessings on thy rule."

Mr. R. H. Wornum, who was keeper of the National Pictures in the first half of the last century, states in his *Account of Life and Work of Hans Holbein*, 1867, that "the picture in possession of the Company of Barber-Surgeons was probably painted about 1541, and Holbein may have died before it was completed." He asserts that some parts were repainted and never touched by Holbein. We know from the references in Pepys's Diary that it was damaged in the Great Fire of London in 1666, for he tells us that when he saw it in 1662 he greatly admired it. Then in August 29th, 1668, he wrote:

"At noon comes by appointment Harris to dine with me and after dinner he and I to Chirurgeons' Hall where they are building it new, very fine, and there to see their theatre which stood all the fire, and which was our business, their great picture of Holbein's thinking to have bought it by the help of Mr. Pierce for a little money. I did think to give £200 for it, it being said to be worth £1,000, but it is so spoiled that I have no mind to it and is not a pleasant though a good picture."

Wornum suggests that after it was thus damaged it underwent restoration, and that the tablet on the wall with the inscription was introduced in place of the

original window still to be seen in the picture at the Royal College of Surgeons. Mr. Arthur B. Chamberlain, in his life of *Hans Holbein the Younger*, 1913, says that "the original background was the window" and that the large white tablet on the wall to the right which helps to spoil the general effect was a late addition. To return to the picture at the Royal College of Surgeons, the early history of which is obscure, he states:

"On January 13, 1618, James I wrote from Newmarket to the Company of Barber-Surgeons asking that their picture should be lent to him as he was anxious to have a copy made of it, and promising that this should be done expeditiously and the original redelivered safely. The copy then made is in all probability the one now in possession of the Royal College of Surgeons, which is smaller than the original, and an indifferent version of it on paper attached to canvas. The figure of Alsop is omitted and in place of the tablet with inscription is the window with a view of the church tower, proving that if it is not the copy ordered by James I, it is at least a very early version of it."

Sir D'Arcy Power, who had an opportunity of closely examining this picture a short time ago, says:

"The back row of figures on the left of the King are evidently by an inferior artist than those of the picture at Barbers' Hall, some of the heads being quite grotesque and more like caricatures than the faithful portraits of Holbein. It is painted upon four pieces of paper, which are joined together upon a canvas to form the picture."

The early history of the painting is still obscure, and if it is the copy made for James I we have been unable to trace it in the Royal Collections of the seventeenth century. Mr. C. H. Collins Baker, the late Surveyor of the King's pictures, has kindly made a search among the catalogues of the Royal Collections and finds that the picture did not pass into the collection of Charles I, nor does it occur in the list of his pictures sold by the Commonwealth. It is not included in the catalogue of the pictures in the time of Queen Anne, and it may therefore be assumed that it was disposed of privately, and eventually came into the possession of M. Noel Desenfans about the middle of the eighteenth century. Desenfans, whose name is linked with Dulwich Gallery, was Consul-General of Poland in Great Britain at this period. He was a well-known connoisseur and art collector, and bought many pictures to form a collection for the King of Poland. His own pictures were offered for sale in 1786, and the picture of Henry VIII and the Barber-Surgeons, now in the possession of the Royal College of Surgeons, was among them and purchased for the Company of Surgeons. If, as surmised, this picture is the copy of the original made for James I, it is especially interesting as showing the background of the Holbein at the Barbers' Hall in its original state. The Holbein picture is painted on panel and measures 10 ft. 3 in. by 6 ft., while the copy in the collection at the Royal College of Surgeons is 9 ft. 2 in. by 5 ft. 2 in. The former was engraved by Bernard Baron in 1736.

C. J. S. THOMPSON, M.B.E.,

Hon. Curator, Historical Collection of the
Royal College of Surgeons of England.

The *Klinische Wochenschrift* of September 15th is a special number with a semi-political significance. The nineteen articles which it contains are written by physicians and surgeons of the Saar area. In a preliminary note Dr. H. Dietlen, on behalf of the Saar practitioners, describes the contents as a contribution made in honour of the ninety-third meeting of the Society of German Scientists and Physicians by German doctors in the Saar who wish to express their unity—never lost in the spirit—with their colleagues in the Reich, and their gratitude for the participation of their German colleagues, during the separation, in the proceedings of scientific and medical bodies in the Saar.

Scotland

National Health Insurance Conference

The twenty-second annual Conference of the Scottish Association of Insurance Committees, held at Stranraer on September 28th and 29th, was attended by about 200 delegates from all parts of Scotland. After a civic welcome by Provost Murray of Stranraer, Mr. John Riddet, the president, in his address said that the British national health insurance scheme was a model to the world, but it must cause united concern to them in regard to the improvement of the services. The medical service was much better than it was when the scheme was instituted. In its scope, however, it was a general practitioner service, and it was desirable that it should be amplified by consultant, specialist, laboratory, and diagnostic aids, and that insured patients should have such institutional and nursing facilities as might be required. The clamant need of dependants for similar benefits was also generally recognized. Financial stringency at the moment appeared to hinder any great development, but they must continue to press for a full and complete medical service in the hope that the means would ultimately be found. The Conference unanimously resolved that the Government be urged to promote legislation to include within the scope of national health insurance young persons entering employment between the ages of 14 and 16. A resolution was also unanimously passed that, in the opinion of the Conference, the right to medical benefit lost by insured persons under the provisions of the Act of 1932 should be restored as soon as possible. It was remitted to the Executive Committee to consider how uniformity could be obtained as between insurance committees in Scotland in regard to making proprietary medicines available to insured persons; it was suggested that details should be discussed with the British Medical Association and the Pharmaceutical Society. Mr. A. B. Gilmour, reporting on the work of the Drug Accounts Committee, referred to a number of unusual and unsuitable prescriptions which had passed through his department. He suggested that in the matter of vitamins care should be taken to see that what could be provided from the kitchen was not provided from the drug fund. There had been some laxity and luxury in prescribing—for example, a proprietary brand of orange squash, a tin of health salts for a child of 3, a dozen safety razor blades, etc. One insured person, in the course of nine years, had received 8 cwt. of an ointment containing boric acid at a cost of £117, and was still receiving treatment. Dr. Kerr, Edinburgh, moved a resolution that unrestricted freedom of change of doctor should be restored to insured persons; this was unanimously approved.

At the meeting on September 29th Mr. John G. Highton, Secretary of the Department of Health for Scotland, in an address on the subject of a national health service, said that not nearly enough had been done in the past to resist the onset of disease, and it was along these lines that a great field of opportunity lay. Referring to the remarkable advances in public health measures in a comparatively brief period, he said that a medical officer of health had not been appointed for Glasgow until after 1860, and five and ten years respectively had elapsed before a fever hospital had been opened and a sanitary inspector appointed. Towards the end of the nineteenth century there had been a great development of health services, but there was no public provision, except in regard to infectious diseases, for medical and surgical treatment in the homes. In the year 1881 there were 9,000 families in the Bridgeton division of Glasgow, of

which only 882 had more than two rooms, and the death rate was 30 per 1,000. The quadrangles of the houses, which were a pleasant feature on the Continent, had an evil significance in Scotland, containing in their centres a privy midden. In school medical inspection there was not yet a complete system of co-ordination with the home, and there was a lack of co-ordination between the home and industry. Much still required to be done in linking up health measures with domiciliary treatment by the general practitioners. Some of the problems which our health service still solved only partially were those dealing with nutrition, environment, and open spaces for the physical development of the body and refreshment of the mind. Referring to a recent tour he had made of various housing operations in Germany, Holland, Austria, and France, the speaker said that he had been most impressed by the good environmental conditions of the working classes; there were gardens immediately opposite the houses, and not miles away in public parks, while every house he visited was very clean. Cleanliness was to a large extent alien in Scottish practice, but he thought this was largely an educational matter. Sir Henry S. Keith, in proposing a vote of thanks to Mr. Highton, said that personal considerations of health did not get all the attention they deserved—for example, in regard to the fever hospital of his town, it was a remarkable fact that at least 50 per cent. of the patients admitted were verminous. There was no reason nowadays why any child or adult should appear in hospital in a verminous condition. He thought that they were not sufficiently impressing upon the individual and the family the necessity of doing something themselves in the direction of health.

Edinburgh Public Medical Service

The proposal for a public medical service in Edinburgh was outlined in the *British Medical Journal* of June 30th last. The scheme has now been adopted, and about one hundred general practitioners in the city have joined it. The arrangements of the scheme follow the lines of the model scheme issued by the British Medical Association, and the area of the service is to be the city of Edinburgh. The first meeting of the practitioners who have joined the service was held on September 18th, in the British Medical Association House, Edinburgh, when Dr. F. K. Kerr was appointed chairman, Dr. A. F. Wilkie Millar honorary treasurer, and Dr. A. P. Robb honorary secretary. An office has been secured at 13, Heriot Row, Edinburgh, where Mr. R. Pairman Miller will act as general secretary. The subscriptions payable by members have been fixed at 4d. per week for one dependant, 8d. for two, 10d. for three, and 1s. for four or more (including medicines), and these will be gathered by collectors weekly or monthly. Canvassing is prohibited, and persons wishing to join the service must do so through their own doctor. There is free choice of doctor and chemist, as under the national health insurance scheme. Membership is limited to dependants of insured persons and others with incomes up to £250 per annum. The scheme has met with the approval of the Edinburgh Insurance Committee.

The Undesirable Tenant

A paper which Dr. A. K. Chalmers read before the Royal Philosophical Society of Glasgow, together with additional notes relating thereto by Sir John Mann, has been published by the Housing Committee of the Corporation of that city as a pamphlet under the title "Can the Undesirable Tenant be trained in Citizenship?" The authors review the progress of slum clearance and the progressive steps that have been taken to place upon local authorities the responsibility for rehousing, and indicate

the extent to which these responsibilities have been carried into actual effect, especially in Glasgow; but, as their title indicates, they are chiefly concerned with the problem which emerges from these activities—namely, what is to be done as regards that section of the displaced slum dwellers who do not respond in a satisfactory social way to the opportunity for improvement which is afforded them? The first point is to discover the extent of this problem; what proportion of the population concerned are found to be quite "undesirable", or "incorrigible" tenants so that they constitute a "refractory group"? Here we have to deal with two sections: those affected by the clearance scheme who refuse to accept the alternative houses provided for them, and those who do accept but nevertheless fail to prove socially satisfactory in their new environment. It appears that experience indicates that some 20 to 25 per cent. of the displaced population will fall within the former class. Not all of these, however, are necessarily incorrigible. A number of them will be reasonably good tenants or lodgers who are able to provide for themselves by other means. Of those who are rehoused under such schemes it seems that about one-tenth soon prove to be undesirable tenants. It may thus be assumed that the statement commonly made that about one-quarter of present slum dwellers prove to be "slum-minded," and so difficult to rehouse with good results, is approximately correct. Three ways of dealing with this residue are mentioned in the pamphlet. Clearly they ought not to be abandoned and removed from such educational influences as can be brought to bear upon them. Some schemes, especially in Holland, have placed them—under certain regulations for promoting cleanliness, respectable living, and punctual payment of rent—in a special simplified type of house or building isolated from the rest. Others provide such a simplified form of house, not in isolation, but intermingled with blocks of the normal type. In spite of the apparent success which has so far attended some such arrangements the objections to this method are obvious and important, especially as they affect the children in families so housed. It is probable that many social workers will agree with Dr. Chalmers that in most cases it is better to rely upon a continued educative supervision under a rehousing scheme of normal character, especially by selected and trained women managers and supervisors according to the methods initiated by Miss Octavia Hill. This, together with the continuance of the beneficial influence shown to be exerted by maternity and child welfare centres, by the school medical service, and by the elementary school, should, within a generation or two, reduce the problem to much smaller dimensions, and reveal whatever residue there may be in whom inherent and inherited traits resist the effects of improved environment.

Housing in Edinburgh

At a meeting of Edinburgh Town Council on September 27th a scheme for assisting in the erection, by private enterprise, of new houses for the working classes was considered. It had been estimated that 750 houses would be erected during the year from May, 1934, to May, 1935, and it was reported that 310 houses had already been completed and occupied. It is now proposed that the corporation should advance money directly to builders who erect houses for letting purposes, on the same terms and conditions as to building societies, while the rate of interest to be charged is to be that fixed by the Secretary for Scotland under the Small Dwellings Act of 1899. It was also agreed, on the recommendation of the Public Health Committee, that an endeavour should be made by the corporation to erect 250 additional houses to replace existing unfit ones during each year of the five-year housing programme, 1934-8. It was pointed out that

the corporation was still waiting for the Government's proposal regarding overcrowding before dealing with the question of building suburban bungalows, which would be far removed from working centres, and rehousing dispossessed slum dwellers in new tenement houses erected upon central derelict areas.

England and Wales

Water Supplies and the Drought

The water situation of the country was further reviewed at a meeting of the Water Supplies Emergency Conference held at the Ministry of Health last week. The rainfall in August and the early part of September has improved supplies in a number of areas, but economy in consumption is still needed. Of 225 large water undertakings, 202 have reported no serious shortage, present or prospective, sixteen report present shortage in their supplies, and seven not at present suffering from shortage report that the position may worsen later, though measures have been prepared for dealing with the situation. Of 745 urban authorities with populations under 20,000, 705 have reported no serious shortage of water, present or prospective, thirty-two report serious shortage, and eight whose areas are not at present suffering from shortage fear it later if enough rain has not fallen by the end of September. Of 536 rural district councils 332 have reported no serious shortage, present or prospective, 156 report serious shortage now in some part or parts of their districts, and forty-eight report that they are not yet suffering from shortage, but may suffer later. Engineering inspectors of the Ministry continue to make special visits to districts where the position calls for investigation. A large number of schemes of permanent improvement of supplies are being carried out or are being prepared. So far forty-one applications have been received under the Water Shortage Act for special emergency powers, about half of which are for new sources of supply, and new powers have already been given in twenty-six cases. Applications for grant under the Rural Water Supplies Act have been received for schemes of permanent improvement at an estimated total cost of £2,900,000. Grant has already been promised to ninety-seven councils, covering 604 parishes, for schemes estimated to cost £1,650,000. The Metropolitan Water Board reports that rainfall in August and early September made it possible to abstract more water from the river and to increase the amount in storage. Reserves had, however, to be drawn on during the third week of September, and economy is still needed. The general rainfall over England and Wales during August was 3.18 in., compared with a normal fall of 3.35 in. Generally the deficiency during the four months ending in August was 26 per cent. Rainfall during the first three weeks of September was less than the normal in most areas, though in others there was an excess locally due to severe thunderstorms.

Paying Patients' Block at Guy's

The foundation stone of Nuffield House, the new building for paying patients at Guy's Hospital, was laid on October 3rd by Lord Nuffield, who in December last offered the governors of the hospital £45,000 for that purpose. Fifty years ago—in September, 1884—Guy's opened a ward for private-paying patients, the first ward of the kind to be instituted in a general hospital. At first it contained twelve cubicles. Later the number was increased to twenty-three, and a resident medical officer

appointed to look after it. To-day thirty cubicles and one room are available for private patients, but the demand is so great that cases have to wait two or three weeks before they can be admitted. The new paying patients' block will accommodate seventy-three patients. Plans have been prepared, and have received the approval of the Court of Governors and of King Edward's Hospital Fund for London.

The block will contain fifty-three separate rooms and five four-bedded rooms, wherein each patient will have a cubicle space. It will have its own sister-in-charge, resident surgeon, and fully equipped operating theatre suite. There will be waiting and lounge rooms for visitors and patients, and a complete kitchen and food unit. Each of these units will be in direct service to all floors by duplicated electric lifts. Special accommodation is allocated for radiology. A feature of the building is the roof garden. The whole of the roof, approached by electric bed lifts, will be available for patients, and the central portion is to be enclosed with movable glass slides. After the ceremony of the stone-laying, Lord Nuffield presented prizes to the students of the Medical School.

British Spas Federation

The bi-annual meeting of the British Spas Federation was held at Leamington last week. Among the numerous matters discussed was the question of the recognition by the Government of the proved value of the British spas and its appreciation of the spas as an asset of national importance, as is the case on the Continent, where, incidentally, a number of the spas are State-owned and controlled. The adoption of a system of diets was also discussed. One or two of the spas have recently instituted an elaborate dieting scheme, and the remaining spas in the Federation are to consider the adoption of similar methods. The Federation, in conjunction with the British Medical Association, has completed a comprehensive training scheme for all candidates for posts as spa attendants. This scheme is to be adopted at once, and will ensure that all new members of spa staffs will be thoroughly conversant with the theory and practice of spa work. A few of the larger British spas have already training schemes in operation, and no one is allowed to give treatment to a patient there unless, he or she has the necessary training and certificates, but the remaining spas will now adopt this stringent course.

Housing Policy

On October 1st the Minister of Health, Sir Hilton Young, started a tour of large towns in connexion with the housing policy of the Government. The object of the tour is to explain to the housing authorities the Government's proposals for dealing with the evil of overcrowding, and to enlist their interest in the work. The Minister will also take the opportunity of discussing with the housing authorities the work of slum clearance, and other interests of local government. The towns to be visited are: Plymouth, Birmingham, Sheffield, Wolverhampton, Stoke, Manchester, Liverpool, Rochdale, Norwich, and Bradford; and the tour, which will occupy the greater part of October, has been designed to cover the widest possible area and variety of housing conditions.

The Health and Cleanliness Council (5, Tavistock Square W.C.1), has recently produced a new poster in colours, "Health Insurance." Specimens of this poster will be sent to those interested by the secretary, Miss Norah March, and the Council is prepared to consider supplying copies in bulk, free of charge, where these would be of substantial assistance to health education.

CORRESPONDENCE

R.M.B.F. Christmas Gifts

SIR,—It has been my privilege for many years to appeal to your readers for contributions to enable the Royal Medical Benevolent Fund to distribute Christmas gifts. I desire to express my personal gratitude to my many medical colleagues who have so generously responded to the appeal in recent years, and especially to the medical societies and Panel Committees who, together with Branches and Divisions of the British Medical Association, have arranged collections at their meetings in aid of this particular need.

It is impossible to give any details in a short letter of the sorrowful lives of those we endeavour to help; in a great many cases tragedy has befallen them. It may not be realized that in issuing this appeal I write on behalf of over 650 beneficiaries, for that is the number on our books, and I feel, therefore, a great personal responsibility as to whether my appeal will suffice to persuade your readers of the urgent need of a generous response.

One medical practitioner, a married man, wrote recently to the Fund that at the age of 66 he had suffered a complete breakdown in health and further work was out of the question. He had done all that was possible to keep going, and was still not in debt, as he had drawn on his endowment policies. But he had now come to the end of his resources, and had been forced to take his little girl, aged 14, away from school, as he could not meet the next term's fees, his income being £60 per annum.

The Fund is now helping this colleague with a yearly maintenance grant, but we want at Christmas to give him and many others the unlooked-for Christmas gift. We try to distribute 30s. to each. I ask your readers to help us to do so. Donations will be gratefully acknowledged by the honorary treasurer, Royal Medical Benevolent Fund, 11, Chandos Street, London, W.1.—I am, etc.,

THOS. BARLOW,
President.

September 30th.

The Eichholz Clinic

SIR,—May I beg the hospitality of your columns to invite members of the medical profession to visit the Alfred Eichholz Memorial Clinic, which was opened in July by the Prince of Wales? It is unique among clinics, inasmuch as it is staffed by blind masseurs and masseuses, whose very blindness appears to be an aid rather than a disability in the development of tactile sensibility. There are sighted medical supervisors and fully qualified sighted sisters, and the very complete equipment for electrotherapy has been specially designed for the use of blind operators. Apart from its interest as a useful service to the medical profession, it has claims on all who would like to encourage a body of men and women whose otherwise sombre lives are being brightened by the opportunity of doing really useful work. The clinic is lodged at 204, Great Portland Street, W.1.—I am, etc.,

MOYNIHAN,
Chairman of the Medical
Advisory Board.

London, W.1, Oct. 1st.

Muco-purulent Tubo-tympanic Infections

SIR,—I was interested to read in your issue of September 22nd (p. 544) Dr. T. Ritchie Rodger's lucid and concise presentation of the above subject. It is a type of infection which at times gives one considerable trouble.

The advisability of searching for, and thoroughly eradicating, any source of infection in the nose or its

adnexa is clearly expressed by him, and is a "dictum" with which I am in thorough agreement. It is surprising how frequently an unsuspected, almost occult, nasal sinus infection, generally of the mucoid variety, is found, particularly in the maxillary sinus, in cases of catarrhal middle-ear deafness. Mere inspection of the nasal passages often fails to reveal this mild sinus infection. Transillumination and x-ray examination give some assistance, but in my opinion nothing short of puncture and aspiration of the maxillary sinus, in every doubtful case, completes the examination.

Subacute catarrhal middle-ear deafness which has proved resistant to other simpler remedies is often quickly relieved when the offending nasal sinusitis is discovered and treated. The earlier the nasal sinusitis is treated the better the prognosis, for there is a tendency, as I have shown elsewhere,¹ for the serous and mucoid exudation in the middle ear to become more and more fibrinous and difficult to evacuate as time progresses. Dr. Ritchie Rodger mentions the value of early evacuation of a serous or mucoid exudation in the middle ear by a paracentesis tympani, and immediate inflation per the Eustachian catheter. It is a form of treatment which, following the practice of the late Sir William Milligan, I have adopted for many years with good results.

I feel convinced, however, that if natural resolution of the otitic exudation does not follow quickly other simpler remedies, the sooner it is evacuated the better the result. Paracentesis may have to be performed on more than one occasion, since there is a tendency for the incision to heal before the catarrhal condition in the Eustachian tube and middle ear has completely resolved.

Unlike Dr. Rodger, I rarely prescribe any astringent or solvent drops for use after the paracentesis, for fear of inducing a secondary infection. The external auditory canal is first thoroughly cleansed by syringing with carbolic lotion (1 in 80), paracentesis performed under a local anaesthetic, and the middle ear then inflated by means of the Eustachian catheter. Unless the fluid evacuated is copious I do not dry out the external canal. A pledget of cotton-wool is placed in the external meatus and the patient warned to reapply the wool should it become soiled, but on no account to leave the ear unprotected or to treat it in any way until I have inspected it in a week or ten days.

I feel certain that if more attention were given to the milder degrees of deafness and tinnitus which follow the milder forms of coryza, etc., one would avoid that troublesome form of deafness in later life—namely, the chronic catarrhal deafness, with its attendant intractable deafness and tinnitus.

Dr. Rodger advocates for the relief of a tubal mucopurulent discharge through an anterior perforation lavage of the Eustachian tube through a Eustachian catheter. The same treatment, of course, would apply to a tubal discharge after a radical mastoid operation. Success frequently follows this method of lavage, but it is at times somewhat irksome to the patient, and often the tube can be cleansed in the opposite direction—namely, by filling the external canal or radical mastoid cavity with the desired solution, allowing the patient to lie down with the affected ear uppermost, and, while in this position, to repeatedly perform "negative Valsalva" (that is, swallowing with the lips closed and nostrils occluded). Negative pressure is thus produced in the middle ear, and as the air is sucked out of the tube siphonage of the fluid takes place from the middle ear via the Eustachian tube into the nasopharynx.—I am, etc.,

Manchester, Sept. 26th.

F. HOLT DIGGLE, F.R.C.S.

¹ *Clin. Journ.*, January 30th, 1929.

Evipan on a Full Stomach

SIR,—I was interested in the article on evipan anaesthesia in ophthalmic surgery by Mr. T. K. Lyle and Dr. F. G. Fenton in your issue for September 29th (p. 589). It appears to me, however, that their views on loaded stomachs require modification. They state that "evipan may be given without danger with a partially full stomach." Again, in reporting a case: "Inhalation anaesthesia would have been impossible owing to the fact that the patient had recently had a meal."

In the considerable literature which has now accumulated relating to evipan deaths there are fatalities which have undoubtedly been caused by syncope from an overloaded stomach. One author (E. A. Voss, *Deut. med. Woch.*, 1933, No. 25) specifically calls attention to this danger. On general principles there seems to be no reason why a full stomach should be less dangerous with sodium evipan than with any other type of general anaesthesia.—I am, etc.,

London, N.W.8, Sept. 28th,

C. LANGTON HEWER.

Preliminary Ligature in Toxic Goitre

SIR,—Although in favour of preliminary ligature of toxic goitre are such authorities as Sir Thomas Dunhill, Professor Wilkie, Mr. Geoffrey Keynes, etc., I should like to outline briefly my opinion on the subject. I agree entirely with Mr. Philip Hawe (September 22nd, p. 569) that the preliminary ligature should never be practised in cases of toxic goitre. I think that such an operation, as trivial as it may seem, is only asking for trouble, or at least worthless.

In the last few years in the surgical clinic of Professor Lobenhöffer—one of the recognized German authorities on goitre—about eighty to a hundred operations on goitres, most of them toxic, have been performed every year, and in no case has the preliminary ligature of the arteries been practised. The mortality due to the operative shock was less than half per cent. The only two fatal cases I witnessed in this clinic were one in which a preliminary ligature was tried, and the other in which only one lobe of the gland was removed. As Mr. Hawe points out, for the good success of the operation it is imperative to remove at least three-quarters of the gland. Even the very toxic patients support the operation very well. The operative shock is always less when large portions of the lobes of the thyroid gland are removed than in cases in which only one lobe is resected, and I therefore believe that an operation in two stages is also unnecessary. I think that neither the preliminary ligature nor the resection of one lobe of the gland will reduce to any large extent the amount of active gland, and for this reason the intervention for toxic goitre should be in one stage, and the removed tissue, as said before, should be over three-quarters of the gland.

The preliminary use of iodine is extremely useful for the success of the operation, and gives excellent results when administered for a sufficient period of time. Regarding the other point—that preliminary ligation should be practised as a test for the susceptibility of the patient to surgical trauma—it is impossible to judge the degree of susceptibility through this operation. In many patients the post-operative shock is greater when this small operation is performed than in the ordinary partial thyroidectomy. On the other hand, I believe that the psychological effect produced on the patient by trying to obtain his permission for the operation is not different whether he is asked to agree to a preliminary ligature of the arteries or to a proper operation on the thyroid. In conclusion, basing myself on my own experience on toxic

goitres, which extends over 150 cases with no mortality, I should like to state that I have always been able to obtain the patient's consent, the operation being performed under local anaesthesia, and I have always practised the operation in one stage by partial removal of a little more than three-quarters of the gland, although among the patients there have been cases of a very high degree of thyrotoxicosis, advanced age, or very low general condition.—I am, etc.,

Manchester, Sept. 24th.

G. BANKOFF.

The Swab in Diphtheria Diagnosis

SIR,—I hesitate to prolong the already lengthy correspondence on this subject, but I think it would be a pity if the net result of it were to shatter the general practitioner's confidence in yet another accepted clinical procedure.

No one knows better than the general practitioner that scientific tests are rarely a substitute for clinical observation, and that a negative swab does not preclude the disease when clinical signs are suspicious. On the other hand, a positive report always means that the patient is a potential danger either to himself or to others, or to both. Practising in a district where diphtheria has been almost endemic for several years, I have found the swab of very great assistance in the diagnosis of doubtful cases and in the detection of carriers.

In my experience of "sore throats" in relation to diphtheria there are three classes of cases to be considered: (1) those in which the diagnosis of diphtheria is certain, or almost so; (2) those in which no question of diphtheria arises; and (3) those in which doubt exists.

1. These cases are immediately given an injection of antitoxin—8,000 to 20,000 units, according to the severity and duration of the infection—and a swab is taken and examined for organisms of diphtheria and Vincent's angina (the other condition most likely to cause confusion).

2. These cases are treated on the appropriate lines. It is impracticable in a busy practice (and I think unnecessary) to swab all cases of sore throat—which may be anything from mildly injected fauces to an acute streptococcal pharyngitis or a recurring quinsy. If, however, diphtheria is prevalent locally, or the relatives express any uneasiness, a swab is taken, but no specific treatment is given pending a report.

3. Each of these cases must be judged on its own merits. The public health arrangements in this district are so good that I can almost always obtain the result of a direct smear examination within three hours, and a cultural report within twenty-four, and often less. Where the probability is not very great I wait for the direct smear report; if negative, it may be permissible to wait for the cultural report; but most of these cases receive antitoxin before the final report is received.

In all cases when diphtheria has been diagnosed and confirmed I immediately swab all the other members of the household, children and adults, and inject 2,000 units of antitoxin intramuscularly. Since adopting this procedure I have not had one single second case occurring in the same household. It seems likely that, even if a person is actually incubating the disease, an injection at this period may completely abort the attack. Moreover, if two swabs at intervals of two days are negative, and the person has had antitoxin injected, he may be safely released from quarantine.

It seems scarcely fair to attribute the high mortality from diphtheria to the dilatoriness of the general practitioner. Other more important causes are the delay of the relatives in summoning their doctor, and the initial virulence of the infecting strain of the Klebs-Loeffler bacillus. The remedy lies, first, in the education of the public to get immediate advice on every sore throat, and secondly, the provision by all local authorities of

facilities for the rapid examination of swabs and the free and ample supply of antitoxin to practitioners for prophylaxis and treatment. If the public fails to learn the children will have to be immunized. If the practitioners fail to utilize the facilities provided for them then the "area specialists" will come. But they will not only give advice on diagnosis; they will make the diagnosis and administer the treatment, and another useful sphere of activity will be denied to succeeding generations of general practitioners.—I am, etc.,

Liverpool, Sept. 22nd. A. G. C. FFOLLIOTT, M.B., B.Ch.

Haemorrhage from Peritonsillar Abscess

SIR,—Knowledge of anatomy may be obtained first hand, by dissection; second hand, from anatomical textbooks; or third hand, from other books containing abstracts or extracts from anatomical works. Mr. T. G. Wilson makes use of the last method, and then allows himself to be led astray by an obvious misprint. Reference elsewhere, or even to neighbouring passages in the book he quotes (Irwin Moore: *The Tonsils and Adenoids and their Diseases*), would show that the descending palatine artery should have been described as a branch, not of the internal carotid, but of the internal maxillary artery, and therefore from the external carotid artery. His argument for ligature of the internal carotid artery therefore fails.—I am, etc.,

Canterbury, Sept. 29th.

THOMAS A. CLARKE.

SIR,—Mr. T. G. Wilson goes one better than Dr. Watson, in that he refers to one book for a reference to another book; his faith unshaken by the omission of either to mention a vessel which he finds among the various tissues brought away by the guillotine. (See the article on "The Post-operative Complications and Results of Tonsil and Adenoid Operations in Children" by Miss Elizabeth Nesbitt in your issue of September 15th.) But I am pleased to see that he confirms the existence of a vein where the Holmesian reasoning has already suggested it. If this vein exists, then to explain the persistent bleeding which is the subject of this argument it is only necessary to suppose that it behaves as veins notoriously often do. The alternative is to produce an artery where none can be shown by dissection, and then get it to behave as no artery can be made to do experimentally.

Personally, I have never seen arterial spurting in the tonsillar fossa anywhere except from the facial branch, but I have only too often had obviously venous bleeding shown to me as arterial because of pulsations in its flow transmitted from the great vessels close below it. However, if there is in Dublin a preparation showing the textbook blood supply of the tonsil I am very willing to go across to see it; I am quite unable to find one in this country.—I am, etc.,

London, W.1, Oct. 1st.

DENIS BROWNE.

Injuries of the Knee-joint

SIR,—I confess to have only a limited knowledge of the surgery of the knee-joint, but I flatter myself I have just sufficient to understand when one writes sense or otherwise. It was not I who wrote "locking in extension, etc.": the phrase is Mr. Stewart Woodman's, and as it is contradictory in terms it is consequently meaningless. He is confusing method with the result, means with the end. What I did suggest was that the history gave me a right to claim that the cartilage could be torn in full extension, the locking resulting afterwards.

Since my communication of May 5th my notice has been drawn to a paper by Mr. C. H. Fagge. Mr. Stewart Woodman will there find that Mr. Martin's advocacy of 1911 has not settled this question finally, as this paper was written in July, 1927, and is to be seen in the *British Journal of Surgery*, vol. xv. He may be astonished to find that there are well-known London surgeons who question Mr. Martin's theory. If he has not already seen this paper I recommend it to him, as he will find a well-sustained argument, and a reasonable hypothesis as to how the cartilage is torn. Whether one agrees or not it compels one's respect, whereas a bald statement such as "rupture takes place *always* in flexion" leaves one cold. Mr. Stewart Woodman wishes me to explain the mechanism of rupture. I should like him to essay the task. If he will do that, and lay his assertiveness aside, he will earn our thanks and command our regards. —I am, etc.,

Leeds, Sept. 30th.

J. STEWART.

The Medical Profession in Hungary

SIR,—I have just returned from the Annual Conference of the Association Professionnelle Internationale des Médecins at Paris, and I wish to bring to the notice of our Association some facts about the situation in Hungary which should cause grave concern to every organized medical body.

The representative of Hungary gave us a detailed history of what has been happening to the profession there in the last few years. Briefly, for some years the country has been suffering from the effects of the financial crisis to an extent which we can hardly conceive. Wages and salaries have been cut all round on several occasions, and the medical profession has suffered with the rest of the population. The reduction in the remuneration of insurance doctors amounts to something between 40 and 50 per cent. The last cut was made when the Government made drastic economies in order to save the health insurance system from bankruptcy. The doctors naturally expected that as the balance sheet of the "caisses" began to improve, so would the position of the medical profession. But they were cruelly deceived. Though the financial position of the "caisses" is now sensibly improved, the Government has peremptorily refused to consider the position of the doctors. But that is not all. The Government now intends to destroy the system of "free choice," which the profession thought it had, after a long struggle, established, and the emphatic protests of the Hungarian Medical Association have just been met by a decree ordering all doctors who derive any kind of remuneration from the State to leave the association. This involves nearly every doctor in the country—all insurance doctors, hospital doctors, university professors and teachers, and, of course, all military and Civil Service doctors.

The A.P.I.M. received this news with consternation. We were amazed that at this time of day the Government of any civilized country should deny to professional men the right of combination which is commonly accorded to workers of every kind. Doubtless the International Labour Office of the League of Nations, with which Hungary is connected, will have something to say about this extraordinary action.

Our Hungarian colleagues, crushed by real poverty but still resolute to preserve their civic rights, deserve, and will, I am sure, receive, the sympathy of every British doctor, as they did that of the representatives of fourteen national medical organizations present in Paris. —I am, etc.,

London, W., Oct. 2nd.

ALFRED COX.

Death and the Survival of Rights of Action

SIR,—I am glad to see your leading article on the above subject (September 29th, p. 600), and I quite agree with the writer's statement that "this change in the law is fraught with grave consequences to the medical profession." Why then did the medical profession take no steps to prevent it? Before the change was made I called the attention of the London and Counties Medical Protection Society to the matter, but nothing was done. Did the British Medical Association do anything?

I may be wrong, but I think the recent change in the law makes the widow, or other representatives, of a deceased doctor liable for alleged negligence of the doctor during his life. If this is so the consequences are more than grave. In a large proportion of cases there will be no evidence (in his absence) on the doctor's behalf, and the opportunity for blackmailing will be simply appalling. Already, as some of the judges seem fortunately to recognize, the expert blackmailer quite realizes that the law affords an efficient and safe engine for his purposes. —I am, etc.,

Lingfield, Surrey, Sept. 29th.

HUGH WOODS, M.D.

"Port Sanitation and Common Sense"

SIR,—In your issue of August 25th a ship surgeon airs his "grouses" against the port sanitary authorities. Though my experience as port medical officer was a temporary one of only some months' duration I feel qualified to question the justice of some of his views.

Ship surgeons, I imagine, are no different from the rest of the profession, and they comprise men good, bad, and indifferent; men with much experience and with little. Can the port authorities be certain that the ship surgeon (not to speak of the skipper of a ship carrying no doctor) can be relied on in every case to differentiate between (1) mild cholera and acute food poisoning, (2) an ordinary femoral adenitis and plague with a septic wound of the leg as a coincidence just to put one off, (3) severe chicken-pox and mild small-pox modified by vaccination? Port authorities have more experience of these "snags" than the average individual ship surgeon, of whom how many have had much experience of plague and cholera? I have omitted the possibility that several deaths from "pneumonia" on board may have been due to *B. pestis* and not to the pneumococcus. Hence the question, "Have you had any cases of illness aboard, infectious or not?" If circumstances seem suspicious the authorities can pursue the matter.

"Ship Surgeon" complains of having to fill up a form at both ends of Suez Canal. Assuming the last port of call to have been Aden, surely infectious disease may break out aboard between Suez and Port Said. I see no reason for this complaint. As to the question whether the ship has picked up anybody or anything during the voyage—the ship might have picked up the crew (with their belongings) of an Arab dhow drifting unmanageable in the Red Sea, the crew being stricken with cholera acquired from the pilgrimage. In this case surely the ship could give the approximate position. The authorities are not dealing only with the surgeons of crack British liners. Certainly the surgeons of some foreign ships cannot be relied upon too far, and most ships carry no doctor. There cannot be a multitude of forms—for example, (1) for ships not carrying doctors, (2) for foreign ships carrying a doctor, (3) for British ships carrying a doctor who is (a) good, (b) bad; (c) indifferent.

I once boarded a ship belonging to a famous British line carrying a British doctor who assured me that he had no illness on board. He was not a good liar, and his assurance

was too emphatic. A tour of the ship disclosed several cases of severe small-pox, which were being deliberately concealed from me. Naturally I visited the ship with the utmost rigour of my powers, which were considerable, and reported the facts to the Board of Trade. I fancy it cost the company some thousands of pounds and the doctor his job. A week or two later I boarded a foreign liner. The doctor informed me that he had two cases of small-pox which had been isolated to the best of his ability, and that every soul aboard had been vaccinated. Naturally I did my best for this ship, allowing the discharge of cargo and of passengers on condition that they gave the address of their destination and reported daily to the health authorities during the incubation period. The surgeon of another British liner informed me that he had lost a passenger from retention of urine. Inquiries revealed the fact that before sailing the surgeon had pawned the ship's case of catheters.

In conclusion, I may add that I have been hauled out of the Orient Express at Brigue and subjected to medical inspection merely because my passport showed that I had recently been in Egypt, where some cases of plague had occurred.—I am, etc.,

Alexandria, Sept. 2nd.

"M.D."

Obituary

BARRY KEYTE TENISON COLLINS

M.A., M.D.Cantab.; F.R.C.S.Ed.; F.C.O.G.

Obstetrician and Gynaecologist, Cardiff Royal Infirmary; Lecturer in Obstetrics and Gynaecology, Welsh National School of Medicine

The death of Dr. Barry Tenison Collins, which occurred on September 24th from cerebral haemorrhage at the early age of 47, removes a prominent figure from the medical life of Cardiff and from his specialty. His father, the late Mr. Edward Tenison Collins, was one of the first to specialize in gynaecology in South Wales; he died only eight years ago.

After a distinguished war service in Gallipoli, Egypt, and East Africa as a captain in the R.A.M.C.(T.), Barry Collins returned to Cardiff and devoted himself entirely to the study and practice of his twin specialty. He was soon appointed to the junior honorary obstetrical and gynaecological staff of Cardiff Royal Infirmary, and in 1931 he was promoted to the senior staff when Sir Ewen Maclean resigned. He was also lecturer in the subject in the Welsh National School of Medicine, and with these appointments his reputation and his practice grew rapidly, so that he came to occupy a leading position in South Wales. He was a sound clinician, an experienced operator, and a clear and concise teacher; while as a colleague his cheerful, breezy presence was always welcome in any professional gathering.

His outside interests were many, and chief among them was his love of sailing: every spare moment was spent in his motor boat in the Bristol Channel. He was also a keen gardener, with quite a specialized knowledge of roses. His mechanical knowledge and ability was most marked, and he was always happy when dealing with some such problem in professional or domestic life. That a life of such varied interests should be cut off so tragically and at so early an age appears indeed hard. He leaves a widow and a daughter, to whom has gone out much deep and sincere sympathy from a very wide circle of personal and professional friends. The memorial service, in the chapel of Cardiff Royal Infirmary on September 27th, was attended by a large gathering, which included practically the entire medical and nursing staff of the Infirmary.

THE LATE PROFESSOR J. A. MILROY

Professor E. B. C. MAYRS writes from Belfast:

Professor J. A. Milroy inspired to an unusual degree the affection and esteem of all who knew him. Kindly and unassuming, his profound knowledge of biochemistry was always at the service of his colleagues, and their problems often made considerable demands on his time. Those who sought his advice were impressed by his familiarity with complex reactions, and with the less known literature of his subject. But his knowledge of science and philosophy extended far beyond the limits of biochemistry. He was a very careful worker; his name is a guarantee of accuracy in his published work. It is hard to believe that his place can ever be filled. We have lost a good friend, and his modesty and charm will live in our memory.

Dr. THOMPSON CAMPBELL died on September 22nd in Leeds, after a short illness, at the age of 62. Born in Glasgow, he was educated at Hutchinson's Grammar School and Glasgow University, where he took honours in many of his classes, among them the Sir William Gairdner prize in clinical medicine. He graduated M.D., with distinction, in 1900, and subsequently held the appointments of house-physician and house-surgeon at the Western Infirmary, Glasgow. He made a voyage to India, and afterwards settled down to his life's work. He was superintendent at Quarriers' Homes, Bridge of Weir, where he did excellent work in organizing and introducing new methods in the treatment of tuberculous patients, and was afterwards appointed superintendent at Ochil Hills Sanatorium, Kinross. This was a new institution, built and equipped with all modern appliances. In 1912 he entered the service of the West Riding of Yorkshire as chief tuberculosis officer, and worked for seven years organizing dispensaries for the examination of tuberculous patients. In 1919 he was appointed medical superintendent at Middleton Sanatorium, Ilkley, Yorkshire. In 1931 he became one of the consultant tuberculosis officers for the West Riding. He travelled extensively in Switzerland, Germany, and America, studying all methods in the treatment of tuberculosis in the various sanatoria. A former colleague writes: Middleton-in-Wharfedale Sanatorium is one of the largest institutions of its kind in the country, having 300 beds for the treatment of male patients, and it was here that Campbell found scope for his energy, enthusiasm, and skill in his life's work. A man of unbounded energy, he could not bear fools gladly, and had no compromise with error or slackness in work. He did not spare himself. He knew every patient in his sanatorium, could tell you off-hand his name, condition of his chest, including x-ray examination, and whether his sputum was positive or negative. Campbell himself knew too well what it meant to have tuberculosis, and the more ill a patient was it only drew forth the best he could give. He was essentially a man who was never weary in well-doing. He cared little for the things of pleasure, and money he spent freely in helping and relieving patients whom he knew to be in distress. Now that he is gone he will be greatly missed by many throughout the West Riding of Yorkshire, where he was held in great respect and affection.

Dr. HENRY WILLIAM BEEDHAM, who died on July 31st at the age of 66, had been a member of the British Medical Association for exactly forty years. He studied medicine at Cambridge and the London Hospital, and graduated M.A., M.B., and B.Ch. in 1895, having taken the L.S.A. in 1893. He was engaged in general practice for some years, first at Norwich, then at West Hampstead and in Cricklewood. In 1914 he took up ophthalmic work only, and held appointments as clinical assistant at Moorfields, the Royal Eye Hospital, Southwark, and at King's College Hospital, Denmark Hill. He took the diploma D.O.M.S. soon after its institution. At the commencement of the Great War Dr. Beedham was the

first man in West Hampstead to enrol as a special constable. He went to France in 1915 under the Red Cross Society, and in 1916 became a temporary lieutenant in the R.A.M.C.; he was promoted captain, and in 1917 was invalided home. Dr. Beedham was a man greatly beloved by all who had the privilege of working with him. For fifteen years he was vicar's warden at Emmanuel Church, West Hampstead, and for six years had been chairman of the Medical Board of the Church Missionary Society. He will be much missed by a large circle of friends.

We regret to announce the death, on September 26th, of Dr. JOHN WILLIAM ENSOR. Dr. Ensor was educated at Epsom College and Guy's, and qualified in 1899. Soon afterwards he started practice in Birmingham. Ensor moved to the new district of Golder's Green in 1911, and saw Hendon develop from a rural village to a borough of over 100,000 inhabitants. In practice he was extremely successful, and on his retirement in March of this year, owing to ill-health, he received a remarkable demonstration of affection from his patients, who presented him with an illuminated address and a motor car to mark their appreciation of his services. After twenty-two years' membership of the British Medical Association he was made chairman of the Hendon Division in 1931. For many years he served on the medical staff of the King Edward Memorial Hospital, Hendon. His colleagues have a very deep and real sense of sorrow at his loss. He is survived by his wife and two children.

Universities and Colleges

UNIVERSITY OF LONDON

Lectures

A course of three lectures, entitled "Forty Years of Gynaecological Endocrinology," will be given by Professor Ludwig Fraenkel, late director of the Women's Clinic in the University of Breslau, at University College Hospital Medical School, on October 31st and November 2nd and 5th, at 5.30 p.m.

The Heath Clark Lectures, on "Malaria in Europe," will be given by Dr. L. W. Hackett, assistant director of the International Health Division of the Rockefeller Foundation, at the London School of Hygiene and Tropical Medicine, on December 3rd, 4th, 5th, 6th, and 7th, at 5 p.m.

A course of three lectures, on "Newer Aspects of Gastritis and its Consequences," will be given by Professor Knud Faber of the University of Copenhagen, at Guy's Hospital Medical School, on November 6th, 8th, and 9th, at 5 p.m. At the first lecture the chair will be taken by Dr. Arthur F. Hurst.

A course of three lectures, on "Some Chemical Problems related to Pharmacology," will be given by Professor G. Barger, D.Sc., F.R.S., of the University of Edinburgh, at the London (Royal Free Hospital) School of Medicine for Women, on November 1st, 2nd, and 9th, at 5.30 p.m.

A course of three lectures, on "Physiological Equilibrium," will be given by Professor L. J. Henderson of the Fatigue Laboratory, Harvard University, at University College, on October 16th, 17th, and 18th, at 5 p.m.

A lecture on "Inflammation of the Maxillary Antrum and other Accessory Sinuses (Some Clinical Manifestations of its Pathology)," will be given by Mr. Herbert Tilley, at the Royal Society of Medicine, on Thursday, November 1st, at 5 p.m.

A public lecture on "Hippocrates and the Hippocratic Tradition in Modern Medicine," by Dr. A. P. Cawadiaz, will be given at King's College, Strand, W.C., on Friday, October 19th, at 5.30 p.m.

UNIVERSITY OF LEEDS

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B. (Part I): T. K. Cooke, F. A. Crosfill, M. A. Kader, C. V. Light, O. Scarborough, F. A. Shackleton, Helene E. Sykes, J. D. F. Thornton, H. L. L. Wilson. (Part II): F. B. Coates, G. M. Davies, R. S. Illingworth, B. Jackson, K. I. Johnstone, G. J. Kearney, E. Lodge, L. Rabinovitch, J. T. Rhodes, H. R. Rollin, L. A. Westwood. (Part III): K. I. Johnstone (second-class honours), F. B. Coates, G. M. Davies, R. S. Illingworth, B. Jackson, G. J. Kearney, E. Lodge, J. T. Rhodes, L. A. Westwood, W. Zemsky.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—A. J. Bain, H. Burt, J. M. Frew.

D.P.H.—J. Fielding, G. P. Holderness, J. Q. Mountain.

Medico-Legal

BUSINESS RELATIONS BETWEEN DOCTORS*

VARIATION OF THE PARTNERSHIP AGREEMENT

The Partnership Act, 1890 (Section 19), lays down that the mutual rights and duties of partners, whether they are set out in an agreement or left to be defined by the Act, may be varied by the consent of all the partners. This consent need not be given expressly, but may be inferred from a course of dealing. The partners may, in fact, be quite unaware that they have consented to a variation, but if they have behaved as though they had consented, then the variation is binding on them. The court inquires in each case what the actual *de facto* rights and duties were, not how they appeared on paper.

The most usual form of variation to come before the courts is a failure to take the accounts at the intervals specified in the articles. The written agreement often lays down that the accounts shall be taken and signed yearly or half-yearly, and that if a partner dies a final account shall be taken as at the date of his death. When the accounts have not been taken as they should have been the court tries to do justice to the representatives of the deceased.

For instance, in *Simmons v. Leonard* (1844) the articles provided that an account should be taken every year. A partner died, and in the dissolution proceedings it appeared that the partners had never settled an account at all. The court ordered a general account to be taken down to the death of the deceased partner.

In *Petty v. Janeson* (1819) the accounts were to be taken every Lady Day. For the first few years they were so taken, but the settlements became irregular, and when a partner died in February, 1813, the last account was found to have been settled on November 5th, 1811. The court held that, as both parties had considered this a binding settlement, the next one ought to have been taken on November 5th, 1812, and awarded the deceased partner's estate a share of the profits up to that date.

Articles sometimes also provide for a periodical valuation, and disputes have arisen because the partners have not exactly carried out the provisions of the clause which governs it.

In *Coventry v. Barclay* (1863) an annual account and valuation had to be "made and fully finished" between the partners, and was binding on them when it was finished and signed by all. A partner died two months after the valuation had been taken; he had not been present, nor had he signed or expressly approved it, but it had been taken in the usual way, and there was nothing to show that he would probably not have accepted it. His executors claimed that it was an arbitrary valuation and he had not accepted it; they asked for a new valuation. Lord Westbury, Lord Chancellor, said that whether the method of taking the valuation agreed with the articles or not, yet, as it had always been followed without deviation or objection, it was valid and binding on the partners. If it was not the method prescribed in the articles, then it was evidence of a new agreement between the partners. The deceased partner had accepted and agreed to this valuation; it had been fully finished and settled between the partners, and if the deceased had not signed it he should have done so. As equity assumes that a thing is done when it ought to have been done, the deceased had, for the purposes of equity, signed the valuation, and it was as binding on him and his representatives as if he had.

It is not necessary for the partners to persist for a long time in a course of conduct inconsistent with the articles; it is only necessary that they shall all have clearly intended to supersede them. The court will not, however, assume that the articles have been varied merely because a provision has been waived once or for a short time only. Sometimes the partners seem to have observed a set of conditions not laid down in the articles but stricter than the existing provisions—such as taking a daily account in the management of the Covent Garden Opera House.

* The first of these articles, by a legal correspondent, appeared on June 9th, 1934 (p. 1053), the second on June 23rd (p. 1145), the third on July 7th (p. 42), the fourth on July 21st (p. 141), and the fifth on September 22nd (p. 574).

(*Const v. Harris*, 1824). In this event one partner cannot claim as a right that this variation should be continued; the decision is one for the whole firm. Needless to say, many disputes would be avoided if all partners (1) kept in mind the main provisions of their articles, and (2) regularized every variation by putting it in writing and signing it, or, better still, by getting their solicitor to draft an appropriate amendment to the articles.

RELATIONS OF PARTNERS TO OUTSIDE PERSONS

For the purpose of the business of the partnership every partner is an agent of the firm. Anything he does in the ordinary course of the firm's business binds the firm and the other partners. If, for instance, he orders a supply of drugs or medical appliances in the name of the firm, the firm must pay for them. The only exception is a double one: when he has in fact no authority to act for the firm in the particular matter in hand, and the person with whom he is dealing either knows that he has no authority or does not know or believe him to be a partner. Both conditions must be fulfilled. Whether he has authority or not, he still binds the firm if the person with whom he is dealing thinks he has. If he has no authority, or has acted outside the scope of his authority, the firm can, of course, claim compensation from him for the expense to which he has put them. The firm is not bound if he pledges its credit without authority for a purpose apparently not connected with its ordinary course of business—for example, if he placed in its name a large order for wine—for the third party is supposed to assume that he has no authority to do so. The principle is that the firm is not bound if the third party knows or has reason to know that the partner has no authority. If, for instance, the partners have agreed that one of them shall pledge the firm's credit only under certain conditions, a person who has notice of this agreement cannot claim against the firm if he gives credit in violation of those conditions.

Every partner is liable, jointly with the other partners, for all debts and obligations which the firm incurs while he is a partner. In Scotland the law is stricter, for each partner is severally liable—that is to say, he is responsible for the whole of the debts of the partnership and not only for his own share. After his death his estate is severally liable in England as well as in Scotland; in England his own creditors have priority over partnership creditors, but in Scotland the partnership debts and his separate debts rank together.

FIRM'S LIABILITY FOR NEGLIGENCE OF PARTNER

In a medical partnership a partner does not often have occasion to pledge the credit of the firm, and its work is so definitely limited to professional services that the question of whether a partner is acting in the course of its business or not hardly ever arises. A fact which concerns medical partners far more closely is that the whole firm and every member severally is liable for any damage caused by the wrongful act or omission of any partner acting in the ordinary course of its business, or with its authority. A patient dissatisfied by the treatment of one partner can sue the whole firm, and if he succeeds each and every partner is liable for the damages and costs, and the property of any one can be taken in execution of the judgement. The partner against whom the negligence is proved must indemnify the firm, but he may not be in a position to do so. Moreover, even if the patient loses his case he may have no money to pay the firm's costs, which will then fall on all the partners, because the partner whose conduct is complained of has done no wrong and therefore cannot be called on to indemnify the firm. Even if the patient does pay the costs, he does not reimburse the firm for the whole expense: it has suffered, for a litigant, successful as well as unsuccessful, usually has to pay his own solicitor's costs.

Hence the vital necessity for every member of a medical partnership—even more vital, if possible, than for a solitary practitioner—to belong to a defence society. If an action is brought against a partnership for the alleged negligence or misconduct of a partner who is not a member of a defence society, the societies to which the other

partners belong would in all probability refuse to assist them. It is not necessary that all the partners should belong to the same society, for the two largest bodies have a reciprocal arrangement under which they act as one, but membership of the same society by all the partners has many obvious advantages and offers a ready means of settling any dispute between the partners without expense to them.

In the same way, any admission or representation made by any partner concerning the partnership affairs, and in the ordinary course of its business, is evidence against the firm. For this reason, if the conduct of any partner is being called in question by someone outside the partnership, the other partners should exercise the strictest discretion in speaking of the matter. A chance word spoken by any of them, even to a person who is not apparently interested, may have the most awkward consequences for them all.

Innocent partners cannot be fined or imprisoned for the criminal conduct of one of their number, but if some person is injured by that conduct, and it is in the ordinary course of their business, he can bring a civil action against any or all of them.

The Services

COMMISSIONS IN THE R.A.M.C.

The War Office announces that applications are invited from medical men for appointment to commissions in the Royal Army Medical Corps.

Candidates will be selected for commissions without competitive examination, and will be required to present themselves in London for interview and physical examination on or about October 25th, 1934. They must be registered under the Medical Acts, and normally must not be over the age of 28 years.

Successful candidates will in the first instance be given short service commissions for five years, at the end of which period they may either retire with a gratuity of £1,000 or apply for a permanent commission. Permanent commissions will be given to officers selected from among those who wish to make the Army their permanent career.

Full particulars of the conditions of service and emoluments, also forms of application, may be obtained on application, either by letter or in person, to the Assistant Director-General, Army Medical Services, the War Office, London, S.W.1.

DEATHS IN THE SERVICES

Major-General Percy Carr-White, C.B.E., Madras Medical Service (ret.), died at Sedghill, Wilts, on August 6th, aged 69. He was born on June 20th, 1865, the son of William Alfred White, Esq., merchant, of Sydenham, and was educated at St. Thomas's and at Edinburgh, where he graduated M.B., C.M. in 1889, subsequently taking the F.R.C.S. Ed. in 1903 and the D.T.M. at Liverpool in 1909. Entering the I.M.S. as surgeon on March 31st, 1890, he became colonel on June 7th, 1916, and major-general on December 8th, 1919, retiring on October 18th, 1921. He served in the third Burmese War in 1891-2, with the Irrawaddy column (medal with clasp); on the North-West Frontier of India, in the Tachi campaign of 1897-8 (medal with clasp); and again on the North-West Frontier and in Afghanistan in 1919, when he was mentioned in dispatches in the *London Gazette* of August 3rd, 1920, and received the C.B.E. He was appointed honorary physician to the King on October 31st, 1918.

Colonel Alan Edmondson Tate, C.S.I., C.M.G., late R.A.M.C., died at Bexhill on September 3rd, aged 75. He was born at Ripley, Surrey, on July 5th, 1859, the son of the Rev. C. R. Tate, rector of Trent, Dorset, was educated at Merchant Taylors', at Bishop's Stortford School, and at the Middlesex Hospital, and took the M.R.C.S., and L.S.A. in 1882. Entering the Army as surgeon on August 4th, 1883, he reached the rank of colonel on December 31st, 1912, and retired on December 26th, 1917. He served in the Burma War in 1886-9 (frontier medal with two clasps); in the Chitral campaign of 1895, with the relief force (medal with clasp); and in the South African War in 1899-1901, when he took part in operations in the Transvaal, the Orange Free

State, and Cape Colony, including the relief of Kimberley, the actions of Paardeberg, Poplar Grove, Karee Siding, Zand River, Johannesburg, Pretoria, Diamond Hill, Wittebergen, and Colesberg, receiving the Queen's medal with six clasps. In the war of 1914-18 he served as an A.D.M.S., was mentioned in dispatches in the *London Gazette* of October 19th, 1916, and received the C.M.G. in 1916 and the C.S.I. on September 9th, 1919. He was staff surgeon to Lord Kitchener, Commander-in-Chief in India, in 1903-7, and honorary surgeon to the Viceroy in 1912-17. In 1889 he married Zajdee, daughter of Frank White, Esq. She survives him, with one son, Lieut. Commander H. R. Tate, R.N., and one daughter, Mrs. Charles Jennings of Avisford, Arundel.

Lieut.-Colonel James Farquharson MacLaren, Bengal Medical Service (ret.), died suddenly at Allahabad on August 5th, aged 79. He was born on October 22nd, 1854, the son of the late Dr. MacLaren of Blairgowrie, and was educated at Edinburgh, where he graduated M.B., C.M. in 1877. Entering the I.M.S. as surgeon on April 2nd, 1881, he became lieutenant-colonel after twenty years' service, and retired on June 24th, 1911. He served in the Sudan campaign of 1885, in the Red Sea column, was present at the actions of Hashin and Tamai, and received the Egyptian medal, with a clasp, and the Khedive's bronze star. The rest of his service was spent in civil employ in the North-West, now the United Provinces, where he was for many years civil surgeon of Allahabad. After his retirement he remained there as surgeon to an Indian rajah. Some years ago he acquired the estate of Dalnabreck, Kirkmichael, Blairgowrie.

Lieut.-Colonel Winthrop Benjamin Browning, C.I.E., Madras Medical Service (ret.), died at Exmouth on September 15th, aged 79. He was born on July 6th, 1855, the son of the late Benjamin Winthrop Browning of Baggotstown, County Limerick, was educated at the City of Dublin Hospital, and took the L.R.C.S.I. and L.R.C.P. in 1879. Entering the I.M.S. on March 31st, 1880, he became lieutenant-colonel after twenty years' service, and retired on May 17th, 1910. After a couple of years' military duty the rest of his service was spent in civil employ in the Madras Presidency, almost entirely in the Madras General Hospital and Medical College. There he held the posts successively of professor of medical jurisprudence, assistant physician, second surgeon, and finally first surgeon and professor of surgery, and latterly also principal of Madras Medical College. He served as surgeon to three Governors of Madras in succession—Lord Wenlock, Sir Arthur Lawley, and Lord Amphil. He received the C.I.E. on December 31st, 1898. After retirement he settled at Fermoy, County Cork. In 1887 he married Annie Georgina, daughter of Colonel Kenlis-Fergus Stevenson, and had three sons.

Lieut.-Colonel Samuel Esmond Prall, Bombay Medical Service (ret.), died at Hythe on September 15th, aged 72. He was born on April 19th, 1862, the son of Dr. Samuel Prall of West Malling, was educated at Guy's Hospital, and took the M.R.C.S. in 1885, the L.R.C.P. Lond. in 1886, and the M.B. with honours, and the B.S. Lond. in 1887. Entering the I.M.S. as surgeon on September 29th, 1888, he became lieutenant-colonel after twenty years' service, and retired on March 26th, 1921. He served in the war of 1914-18, and was mentioned in dispatches in the *London Gazette* of March 7th, 1918.

Lieut.-Colonel Evelyn Charles Hepper, Indian Medical Service (ret.), died at Beaumont, Guernsey, on September 16th, aged 57. He was born on December 10th, 1876, was educated at Bart's, and took the M.R.C.S., L.R.C.P. Lond. in 1900. Entering the I.M.S. as lieutenant on June 27th, 1901, he became lieutenant-colonel on December 27th, 1920, and retired on September 1st, 1931. He served in the Zakka Khel campaign on the North-West Frontier of India in 1908, receiving the frontier medal with a clasp. In 1913 he got civil employ in the United Provinces, but in the following year was recalled to military duty to serve in the war of 1914-18. After the war he rejoined the United Provinces, and served there until his retirement.

Dr. Arthur Batoum Zorab, late I.M.S., died at Southampton on September 1st, aged 54. He was born on April 18th, 1880, the son of the late Lieut.-Colonel J. M. Zorab, I.M.S., was educated at Guy's, and took the M.B., B.S. Lond. and the M.R.C.S., L.R.C.P. Lond. in 1906. After serving as chief clinical assistant in the ophthalmic department at Guy's, he entered the I.M.S. as lieutenant on July 27th, 1907, but resigned two years later, on September 26th, 1909, and settled at Southampton, where he practised as an ophthalmic surgeon. He was honorary surgeon to the Free Eye Hospital, Southampton, and honorary ophthalmic surgeon to the Royal Hants County Hospital at Winchester.

Medical News

Four lectures on the rheumatic diseases will be delivered by Dr. J. Alison Glover at Gresham College, Basinghall Street, E.C., on October 9th, 10th, 11th, and 12th at 6 p.m. Admission free.

Dame Janet Campbell has been invited by the Canadian Council on Child and Family Welfare, with the approval of the Dominion Government, to visit Canada during October and November in the interest of maternity and child welfare, and she sails for Quebec to-day, Saturday, October 6th.

A meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine will be held on Tuesday, October 9th, at 5 p.m., when Professor J. H. Burn will deliver his presidential address on "The Control of the Blood Pressure." On October 12th, at 8.30 p.m., Mr. Ransom Pickard will give his presidential address before the Section of Ophthalmology, on "The Causation of Herpes Ophthalmicus."

A meeting of the Paddington Medical Society will be held at the Great Western Royal Hotel, Paddington, W., on Tuesday, October 9th, at 9 p.m., when Professor F. Langmead will deliver an address on "The Significance of High Blood Pressure."

The Harben Lectures will be delivered in the Lecture Hall of the Royal Institute of Public Health, 23, Queen Square, W.C., at 4 p.m. on October 8th, 9th, and 10th by Dr. W. J. Tulloch, professor of bacteriology, University of St. Andrews, on "The Diagnosis of Small-pox and the Investigation of Vaccinia by Laboratory Methods." No tickets of admission are required.

The opening meeting of the Illuminating Engineering Society will be held at the Lighting Service Bureau, 2, Savoy Hill, Strand, W.C., at 6 p.m. on Tuesday, October 9th. After the presidential address by Mr. H. Hepworth Thompson, a report on progress in illuminating engineering, prepared by the Technical Committee, will be presented, and various exhibits shown.

Two special lectures on "The Operative Treatment of Facial Palsy" (illustrated by cinema films) will be delivered at the Royal College of Surgeons of England, Lincoln's Inn Fields, W.C., on Wednesday and Thursday, October 10th and 11th, at 5 p.m., by Dr. Arthur Baldwin Duel, F.A.C.S., senior surgeon-director of the Manhattan Eye, Ear, and Throat Hospital, New York.

The fifth winter post-graduate session at the Hampstead General and North-West London Hospital, Haverstock Hill, N.W.3, will open on Wednesday, October 17th, at 3 p.m., with an address by Sir Henry Brackenbury on "Patient and Doctor." Lectures will be given on Wednesday from October 24th to December 12th, at 4 p.m.

The annual meeting of the Société Française d'Orthopédie will be held at the Paris Faculty of Medicine on October 12th, when the following questions will be discussed: the funnel-shaped thorax, introduced by Dr. Garnier of Paris, and treatment of spastic paralysis, introduced by Drs. Roudel of Marseilles and Delchef of Brussels.

The Fellowship of Medicine (1, Wimpole Street, W.) announces that lecture-demonstrations will be given at 11, Chandos Street, W., at 2.30 p.m. on October 9th and 16th. Courses of instruction include a week-end course on diseases of the heart and lungs at the Royal Chest Hospital, occupying the whole of October 13th and 14th; medicine and surgery, at the Metropolitan General Hospital, from October 8th to 20th, 10.30 a.m. to 6.30 p.m.; cardiology at the National Hospital for Diseases of the Heart, October 8th to 20th, occupying the whole of each day; ophthalmology at the Royal Westminster Ophthalmic Hospital, October 15th to November 3rd, every afternoon; gynaecology at the Chelsea Hospital for Women, October 22nd to November 3rd; neurology at the West End Hospital for Nervous Diseases, October 29th to November 3rd; and two week-end courses, one on clinical surgery at the Royal Albert Dock Hospital, October 20th and 21st, and the second on chest diseases

at the Hospital for Consumption, Brompton, October 27th and 28th. These courses are open only to members and associates of the Fellowship.

The People's League of Health has arranged the following lectures in connexion with the Borough of Southwark's health week: October 8th, "The Laws of Health," Dr. Leslie J. Harris; October 9th, "Eyes," Mr. A. F. MacCallan; October 10th, "Does it matter what we eat?" Professor V. H. Mottram; October 11th, "Teeth—How They Come and Why They Go," Mr. Francis V. Macguire; October 12th, "Preventable Disease in the Home," Sir Bruce Bruce-Porter; October 13th, "Every Man His Own Doctor," Dr. Harry Campbell. The meetings will be held at the lecture hall, Manor Place Baths, S.E.17, at 8 p.m.

University College Hospital Medical School has arranged a programme of post-graduate demonstrations for the benefit of old students on Thursday and Friday, October 11th and 12th, from 10 a.m. to 4 p.m. At 4.15 p.m. on October 12th the annual general meeting of the Old Students' Club will be held in the Medical School, under the chairmanship of the president, Surgeon Vice-Admiral Sir Arthur Gaskell. At 7.30 p.m. the same day the annual dinner (12s. 6d. exclusive of wines) will be held in the library of the Medical School. The annual dinner of the University College Hospital Medical Women's Association will be held at the Piccadilly Hotel on Friday, October 12th, at 7.45 p.m., preceded by the annual general meeting at 7.15.

The National Hospital, Queen Square, W.C., has arranged a post-graduate course from Monday, October 8th, to Friday, December 7th. The course will include out-patient clinics each week-day, except Saturday, at 2 p.m.; lectures and clinical demonstrations each week-day, except Saturday, at 3.30 p.m.; demonstrations on the pathology of the nervous system, on Wednesdays and Thursdays at 12 noon, on the anatomy of the nervous system, on Mondays at 12 noon, and on methods of clinical examination, on Thursdays at 5 p.m. The fee for the course is £10 10s.; for those who hold perpetual tickets, and for clinical clerks, £8 8s.

At a sessional meeting of the Royal Sanitary Institute at Sunderland on Friday, October 12th, a discussion on "Vermin and Slum Clearance" will be opened by Dr. A. S. Hebblethwaite, medical officer of health for Sunderland; and a discussion on "Anaemias and Preventive Medicine" will be introduced by Dr. H. A. Cookson. Mr. W. T. Creswell, K.C., will preside over the meeting, which begins at 5 p.m. in the Town Hall.

The third congress of the Latin Medical Press will be held in Paris under the presidency of Professor G. Etienne of Nancy, from October 17th to the 21st, when the following papers, among others, will be read by French, Belgian, Spanish, Portuguese, and Rumanian representatives: the relations of the medical press with pharmaceutical advertisements; the scientific and moral responsibility of the Latin medical press; and the technique and presentation of a medical journal. Further information can be had from the general secretary, Dr. L. M. Pierra, L'Hérmitage, Luxeuil, Haute-Saône, France.

The fortieth Italian Congress of Internal Medicine will be held at Rome under the presidency of Professor Cesare Frugoni from October 17th to 20th, when the following papers will be read: "Meteorism," by Professors N. Pende and M. Bufano; "Vaccine and Non-specific Treatment of Infectious Diseases," by Professors A. Ferrata and G. Boeri; "Bronchiectasis" (in conjunction with the Italian Society of Surgery), by Professors A. Omodei Zorini, R. Alessandri, F. Lassagna, and A. Vallebona; and "Pleurisy in the Army," by Major R. D'Alessandro. Further information can be obtained from the general secretary, Professor Arnaldo Pozzi, R. Clinica Medica, Rome.

A committee consisting of ophthalmologists and otorhino-laryngologists has been formed at Marseilles to commemorate the first operation performed under local cocaine anaesthesia in October, 1884. The ceremony will take place on October 27th. Further information can be obtained from Dr. Roche, Marseilles.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to: The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.

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All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

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QUERIES AND ANSWERS

Catarrhal Jaundice following T.A.B. Inoculation

Dr. ARTHUR D. SPENCE (London, E.C.1) writes: It would be interesting to know whether others have had the experience described below. I have given many hundreds of anti-typhoid inoculations, but have not had catarrhal jaundice occur before, though in the course of typhoid fever in the East we sometimes saw varying degrees of jaundice. A young assistant in a merchant firm in Bangkok had the usual 0.5 c.cm. first T.A.B. inoculation preparatory to his return to the East, on Thursday, August 9th. On Saturday night he had a severe rigor and vomiting, and later a temperature of 102° F. Next day he developed a typical catarrhal jaundice, with occasional vomiting. He later became deeply jaundiced and the itching of the skin was very marked. The jaundice ran a usual course, but I did not care to give him his second dose, and he left for the East on August 23rd. The vaccine was prepared at the Lister Institute of Preventive Medicine.

Treatment of Disseminated Sclerosis

"M.D., D.P.H." writes from Essex: Campolon has, I understand, been used with some success in subacute degeneration of the cord in cases of pernicious anaemia. I should be pleased to hear if any of your readers has tried this preparation in disseminated sclerosis and with what result. If success can be attained in the former case, why not in the latter?

Nail-biting

"M. P." writes from Cornwall: A man who was a persistent nail-biter in his boyhood and for long spells in later years found the habit impossible to control had gall-stones removed when over 50 and now for ten years has had no tendency whatever to resume the practice. I suggest that in many if not in all cases there is a centre of irritation which should be sought and treated. As the gall-bladder would appear to be the likeliest site for the irritation it may one day be accepted that nail-biting is a symptom of gall-stones!

Income Tax

Purchase of Additional Practice

"G.P." purchased the goodwill of a practice from "X," a retiring practitioner, the consideration being the payment to "X" of half the fees received from his patients for the following two years. The inspector of taxes insists on treating "G.P." as having commenced a new practice as from the date of the amalgamation. Is this legally correct?

*** Yes. The practice must be regarded as a new one, and "G.P." is assessable on his (presumably) increased profits as from the date of amalgamation of the practices. He cannot exclude the cash received and handed on to "X" because that represents the capital amount he is

paying for the additional connexion. The hardship so far as "G.P." is concerned is that he is in effect forced into the position of having to pay tax on income (that is, the fees due for work done after the amalgamation) before it is received, or if received, has partially been expended in capital payment.

Tax on Interest Paid

J. C. C. is liable for payment to an insurance company of interest as follows: gross amount, £32, less income tax, £8—net amount payable, £24. He asks why he should pay income tax every year, since the loan was received once only.

** The payment of tax by "J. C. C." has nothing to do with the receipt of the loan, which was a "capital" transaction, but is merely the way in which the tax due from the company on the £32 reaches the Revenue. If there were no tax "J. C. C." would pay the company £32; as it is, he pays the company £24 and the Revenue £8—that is, £32 in all. In other words, he does not ultimately bear the £8 tax; he is merely the channel by which it reaches the proper quarter.

LETTERS, NOTES, ETC.

Diagnosis of Endocrine Dysfunction

"A. G." (Bathford) writes: I venture to suggest that an observation in connexion with abnormal functioning of the endocrine glands may be of more extended interest than has perhaps been realized. The following passage occurs in *The Tides of Life* (R. G. Hoskins): "There is some evidence that the pancreas of the developing foetus may in a measure function in the latter part of pregnancy to correct the insulin deficiency in the diabetic mother. In experimental animals suffering from pancreatic deficiency events may progress fairly satisfactorily until the birth of the offspring, after which death of the mother from acute insulin deficiency may promptly take place (Carlson). In conformity with the foregoing, Mazér and Goldstein have recently noted indisputable evidence of over-production of insulin in an infant of a diabetic mother for several days after its birth." (Italics mine.) The phenomenon of amelioration of symptoms during pregnancy is not confined to diabetes alone, and this suggestion that a normal foetus may be supplying a glandular deficiency in the mother seems an interesting explanation of what may be occurring in all these cases. If this were so, and since the infant shows signs of over-activity of the crucial gland for a few days after birth, the question arises whether, by observing the newborn infants of mothers suffering from various complaints, it might not be possible to ascertain which gland in the mother is lacking in efficiency. The disease in which such an observation would perhaps be of the greatest interest is the primary form of rheumatoid arthritis. Of this complaint Dr. W. S. C. Copeman writes: "Symptoms will often clear up during a pregnancy which occurs in the course of the disease, but return in most cases with redoubled vigour after parturition" (*The Treatment of Rheumatism in General Practice*). If the offspring of such mothers were found to show signs of some glandular over-activity, that might prove quite a useful pointer in the study of the arthritis enigma. In other conditions also, such as epilepsy and allergy, where remission of symptoms occurs during pregnancy, it might be possible by the above means to learn something either of the aetiology of the disease or of the constitutional weakness of the particular patient.

Graham Lusk

The name of Graham Lusk is familiar to our readers through his book *Elements of the Science of Nutrition*. Those desiring to learn something of his career and personality may be recommended to turn to a comprehensive article by Amos E. Light in the *Yale Journal of Biology and Medicine* May, 1934, vi, 487, which is illustrated by a striking photograph and contains a full bibliography. The son of a distinguished obstetrician, Lusk was born in Bridgeport, Connecticut, in 1866. Deafness led him to take up chemistry rather than medicine as a career, and he began by studying chemical engineering at Columbia School of Mines. At Munich he had the good fortune to work under Carl von Voit, whom he never failed to visit when subsequently travelling in Europe. In 1895 he became professor of physiology at Yale, where his department consisted of one room only, which he cleaned himself. He later occupied the chairs of physiology at Bellevue Hospital Medical

College and at Cornell University, and in 1912 became director of the Russell Sage Institute of Pathology at New York. He retired just before his death, which occurred on July 18th, 1932, at the age of 66. His more important contributions to physiology include his researches on clinical calorimetry, specific dynamic action of proteins, phlorhizin glycosuria, and diabetes mellitus. He was the founder and first president of the Harvey Society. Throughout his career he advocated the migration of directors and instructors from one school to another to lower the possibility of either becoming too self-centred.

Blood Pressure Risks

"L.R.C.P." writes from Co. Durham: With reference to the correspondence in the *Journal* of September 15th, under the headings "Is High Blood Pressure a Risk?" and "Is the Taking of Blood Pressure a Risk?" the answer is, in my experience, "Yes" to the first query, and "No" to the second. I have very little doubt that the fatalities mentioned by Dr. Hunter are coincidences such as have occurred during serum administration. I have taken several thousand blood pressure readings, including two hundred of a patient who died from angina pectoris. I took readings from the same patient during two attacks. He died a few hours later in another attack. There were no ill effects from my observations extending over a period of twenty years. In the second tragic occurrence the blood pressure reading was 140/120, too low a systolic pressure for a patient with such a high diastolic reading, and in my opinion means a weakened or degenerated myocardium. Confirmation may be obtained from the character of the breathing and the rhythm of the pulse. If the breathing is audible with or without separation of the lips and teeth and the lower intercostal spaces are indrawn, coupled with a poor exercise tolerance, and if on auscultating over the cardiac area for at least two minutes a silence is detected during a complete cardiac cycle, or an alteration in the rhythm, where two normal beats are followed rapidly by five or six small beats—then I believe the myocardium to be extensively degenerated, and sudden death may follow.

Substitute for Oiled Silk

Dr. W. WASHBOURN, C.B.E. (Blackfriars, Gloucester), writes: A patient has recently called my attention to the virtues of a substance named "gelaphane," as a substitute for oiled silk for fomentations, etc. I have given it a good trial and find it more efficient, and far cheaper, costing about 1s. 8d. a square yard, as against 3s. for oiled silk.

** We have made inquiries, and learn that the substance Dr. Washbourn mentions is manufactured by Gelaphane, Ltd., Severn Road, Gloucester.

Playfair's Probe as Pipe-cleaner

Dr. DOUGLAS SEATON (Leeds) writes: I should like to congratulate Dr. D. V. Latham (September 29th, p. 618) on his ingenuity in using pipe-cleaners in place of a Playfair's probe. I have not had any occasion to use this instrument for its original purpose for some years, but have found it a very efficient pipe-cleaner.

Disclaimer

Dr. A. M. VALERIE BONHOTE (Tadworth) writes: I am not in any way responsible for the publication, in lay newspapers, of an extract from my letter which was published in the *British Medical Journal* of last week on page 618.

** We sympathize with Dr. Bonhote: but she is not the first (and will not, we fear, be the last) to suffer from unsought publicity of this kind.

Corrigendum

Our attention has been drawn to a mistake in the article "Numbers of the Medical Profession," published on September 1st (p. 389). In the sentence beginning "According to statistics published last year by the International Labour Office the country with the most medical practitioners is England, with 1 doctor to every 822 inhabitants" the figure should have been 1,490. The reference is the *Quarterly Bulletin of the Health Organization of the League of Nations*, vol. ii, No. 4, December, 1933.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 51, 52, 53, 56, and 57 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 54 and 55. A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 192.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

234 Secondary Pellagra in Asylums

G. V. BREDMOSE (*Hospitaltidende*, June 12th, 1934, p. 694) has joined in the hunt for cases of pellagra in asylums in Denmark, recently set on foot by Hess Thaysen, whose investigations have shown that pellagra, secondary to protracted gastro-intestinal disease or an inadequate diet, is not rare among the insane. By January, 1934, the comb-out of Danish asylums had yielded as many as twenty cases of pellagra; and the author adds seven more to this number by scrutinizing the records of his asylum in the ten-year period 1924-33. Five of the patients were women, and five had died suffering from well-developed, active pellagra. In the last two cases the patients benefited from the comparatively early recognition of their disease and from treatment with vitamin B₃ preparations (bevit and spinatin) and a dietary including eggs, milk, cream, and maltose. Under this treatment marked improvement was effected as far as the pigmentation, hyperkeratosis, and spinal symptoms were concerned. But there was no improvement in the mental condition, and the author is inclined to think that no such thing as a special pellagra psychosis is demonstrable. Pellagra may occur in any form of mental disease, not as a direct sequel to it, but as the result of refusal to eat or prolonged gastro-intestinal disturbances which interfere with the absorption of the pellagra-preventing vitamin. The investigations hitherto conducted in Denmark suggest that 0.3 to 1 per cent. of the inmates of Danish asylums suffer from pellagra.

235 Infection Risks from Children with Open Tuberculosis

G. WEBER and F. STÜRLINGER (*Münch. med. Woch.*, June 29th, 1934, p. 976) draw attention to the growing importance attached to children as sources of tuberculous infection, since several investigators have found that the contents of the stomachs of tuberculous children, withdrawn by the stomach pump, often contain tubercle bacilli. To examine this problem from another angle, they introduced six guinea-pigs into the tuberculosis section of a children's hospital in Munich, letting tuberculous children play with the animals in bed. A couple of guinea-pigs were kept as controls (out of contact with the tuberculous children). The other guinea-pigs were removed from the section during visiting hours, so as to avoid their infection by tuberculous visitors. This experiment was continued uninterruptedly for three months, and the guinea-pigs were then kept by themselves in stables for another three months. During this period they were repeatedly tested with tuberculin administered by the intracutaneous route. There was never any positive tuberculin reaction, and when the guinea-pigs were killed no evidence of tuberculosis was found. Yet at least two of the children had cavities, and in several cases an intercurrent attack of whooping-cough made the children cough much. Though this experiment was negative, the authors are disinclined to conclude from it that tuberculous children do not spread tuberculosis.

236 Abscess of the Lung

H. STARCK (*Deut. med. Woch.*, June 8th, 1934, p. 857) believes that within the last few decades abscess of the lung has become quite common after being so rare that a clinician's experience of it might well be limited to a single case. Now he may have seen over a hundred such cases, and Professor Starck has observed twenty-three cases, which, with only two exceptions, have occurred since 1930. As women are as subject to this disease as men, it can hardly be traced to war-time gassing. A more plausible hypothesis incriminates the successive waves of influenza which have swept over the world since 1918, and which may have paved the way for abscess of the

lung. Though the textbooks distinguish between abscess and gangrene of the lung, the difference is assuredly one of degree only; the simple abscess of the lung merges without any great change into gangrene when anaerobic germs enter the field and render the sputum putrid. Fever is seldom absent, but there is no characteristic temperature curve, and it may not exceed 38° C. throughout an illness lasting for months. Indeed, one of the author's patients has suffered from a pulmonary abscess for two years and a half without any rise of temperature. The disease may be fatal in a few days or run a chronic course, lasting for years; even when there are no complications, and the abscess is a benign, metapneumonic lesion, the illness is apt to last three or four months. The prognosis is most uncertain; at any moment there may be a surprise. As a rule the central and perihilar abscesses fare better than the peripheral abscesses, but the factors of greatest prognostic importance are the general health, the heart, and circulatory system. When the abscess is perihilar or central an artificial pneumothorax is indicated. Of the author's twenty-three patients four were operated on (two deaths and two recoveries). There were five deaths from sepsis. The recoveries under conservative treatment numbered thirteen, and one patient was still under treatment.

237 Thrombo-angiitis Obliterans and Typhus

D. KISZÉNIK (*Thèse de Paris*, 1934, No. 513), who records a personal case in a patient aged 23, maintains that thrombo-angiitis or Buerger's disease is not an exclusive appanage of the Jewish race, but is encountered in all countries where typhus is endemic, such as the Balkans and Soviet Russia. In view of the affinity of typhus infection for the vessels and the frequency of thrombo-angiitis obliterans in those countries where typhus is endemic, it is probable that a number of cases of Buerger's disease are due to an attenuated or inapparent form of typhus, for which a careful search should be made by clinical examination and the Weil-Felix reaction.

Surgery

238 X-Ray Diagnosis of Chronic Appendicitis

L. KRENN (*Wien. klin. Woch.*, June 22nd, 1934, p. 778), as proof of the utility of x rays in the diagnosis of the "chronic appendix," cites the finding that the addition of radiography to the pre-operative investigations diminishes the proportion of normal appendices found from about one in four to about one in ten, in cases coming to operation for supposed chronic appendicitis. Of 234 patients who appeared clinically to have this disease, alterations of the appendix could be shown radiologically in two-thirds of them. Only 10 per cent. of the appendices which had been invisible on screening proved to be normal. No single appendix was free from disease which radiologically had showed abnormal filling (partial filling, adhesion, tenderness): this group was composed of twenty-one patients. According to the practice of Czepa, the patients received about a teaspoonful of magnesium sulphate with the contrast meal, and were examined eight, twenty-four, and forty-eight hours afterwards; the screening was repeated (with a different aperient dose) if the appendix was imperceptible.

239 Treatment of Syndactylism by Epithelial Inlay

J. ESSER and RAOUL (*Rev. de Chir. Plastique*, May, 1934, p. 21) point out the difficulty of successful operative treatment in cases of syndactylism, particularly owing to the insufficiency of skin available to close the wounds after separation of the fingers. Skin grafts are successful in some cases, but the technique is delicate and difficult, and the formation of scar tissue and granulation may prevent free movement of the fingers. The method of treatment

advocated by the author, and called "epithelial inlay," has been in use by him for eighteen years, and has given remarkably good results: The fingers are first separated up to the interdigital space, so as to leave the web at the normal level when the operation is completed. After careful haemostasis an impression of the wound is taken with a Stent mould, which is similar to that used by dentists when taking impressions of the teeth and jaws. The mould is disinfected externally by sublimate solution, and is soaked in hot water to soften it before it is applied to the interdigital space. After a few minutes the mould hardens, and the impression thus taken is covered with a dermo-epidermic graft, which must be of sufficient size to cover both the web and the two lateral wounds. The graft is then placed between the fingers and is held firmly in place by bandages. The mould is removed after ten days, and it has always been found that the graft has taken so successfully that the wound is completely covered by epithelium without sign of granulation. The mould is dried and replaced for a few more days. This method of treatment is considered to be superior to that of any other type of plastic operation, being simple to carry out, and giving good results in all types of syndactylism.

240 Sarcoma complicating Paget's Disease

Paget observed the frequent occurrence of sarcoma in the disease bearing his name, and Leri noted that this malady predisposes to gout and cancer, especially osseous cancer; several cases are recorded in the literature. J. HAGUENAU, L. GALLY, and P. DAUM (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, June 4th, 1934, p. 786) present details of a case of Paget's disease in which an osteo-sarcoma of the right knee with metastases in the cervical vertebral region developed. Death supervened in six months after the first appearance of pains in the knee. In most cases these tumours appear after the age of 50, and much more frequently in males, and they invariably develop on bones presenting, at least radiologically, the characteristics of Paget's disease, and never on normal ones. Histologically, they most frequently resemble ordinary sarcoma; in one case, however, myeloplaxic tumours occurred, and in another von Albertini noted that the marrow of the affected bones was converted into a tissue of fusiform cells, sarcomatous in appearance, and he suggests the possible formation in "pagetic" bones of a presarcomatous tissue capable of true sarcomatous degeneration. The present authors believe that this complication is too infrequent to permit of this hypothesis, and consider that these cases are analogous to those neoplastic degenerations following chronic irritation. The prognosis of these sarcomata is rapidly fatal and no treatment is of any avail.

241 Fracture of the Styloid Process

O. KAPEL (*Hospitaltidende*, June 26th, 1934, p. 786) finds that in certain fractures, such as those of the os naviculare manus and of the styloid process of the radius, inadequate immobilization may prevent bony union and ultimately lead to a painful wrist with chronic arthritis deformans. When immobilization is not continued long enough pain returns on movement, and it may then be waste of time to practise massage and active movements. A chauffeur, aged 49, fractured the styloid process of the right radius while cranking up a car. For three weeks the wrist was immobilized, and thereafter he was treated with massage and movements. As his wrist remained painful he was referred to the author, who secured it in plaster-of-Paris, in a position of slight dorsal flexion, with the fingers perfectly free. The patient was thus still able to do gardening. The plaster was changed every eight weeks and worn altogether for seven months, after which the movements about the wrist and fingers were perfectly free and painless. The successive x-ray examinations when the splint was changed showed progressive healing of the fracture. The author argues that if movements and massage had been continued when he took over this case the patient would have had an always painful joint, with arthritis deformans and progressive invalidism before him.

Therapeutics

242 New Method of Artificial Respiration

S. JELLINEK (*Wien. klin. Woch.*, June 29th, 1934, p. 808) criticizes the older methods of artificial respiration, and states that the more or less brutal compression of the chest usually employed is physiologically unsound. The circulation in the lungs, as well as the coronary circulation, benefits from the normally present negative intrathoracic pressure, and compression, besides impairing these functions, produces sudden resistance to the muscularly weak right side of the heart. It further damages the lung parenchyma, especially the respiratory epithelium, and if sufficiently brutal may produce fracture of the ribs, rupture of the liver, and laceration of the diaphragm. The good results achieved by older methods do not minimize their danger. Jellinek describes a new method depending on "concussion" of the thorax. The patient is put on his back, with an improvised support between the shoulder blades. The tongue is automatically fixed by the patient's second and third fingers, which are introduced into the mouth and press on the tongue behind the teeth. This automatic fixation keeps the respiratory passages clear. The patient's upper arms are grasped by the fingers, the thumbs resting on the acromial end of the clavicles. With a strong rapid movement the shoulders are pressed against the shoulder-blade support and let go after one second. This pressure is repeated rhythmically at two to three second intervals. X rays showed that all three diameters of the chest increase in size, while manometric readings demonstrated that suction was induced—that is, that active inspiration is aided.

243 Animal Carbon Injections in Infections

H. GAUDIER and DÉMAREZ (*Bull. de l'Acad. de Méd.*, July 3rd, 1934, p. 45) record excellent results in twenty-five cases of very varied infections (urinary and uterine infections, acute articular rheumatism, pneumonia, etc.) following intravenous injections of animal carbon (Saint-Jacques's method). Doses ranging from 2 to 5 c.cm. of a 2 per cent. solution of the finely pulverized substance were injected in series of two or three injections at various intervals. The injections are painless, are not followed by secondary fever, and cause a lowering of the temperature and marked clinical improvement. The authors emphasize the complete innocuity of this method.

244 Remedy for Mycotic Eczema of the Feet

S. LOMHOLT (*Ugeskrift for Læger*, June 21st, 1934, p. 655) of the Finsen Institute in Copenhagen has recently conducted encouraging experiments with para-oxy-benzoic acid-ethyl-ester—sold by the firm of Leo as "mycocten." It was prepared by two engineers who had investigated various means of preserving foodstuffs against moulds. They requested the author to test it in cases of interdigital eczema of the feet provoked by the *Epidermophyton interdigitale*. After testing it in about 100 cases, some of them controlled by simultaneous tests with various other remedies applied to the other foot, the author was greatly impressed by its efficiency and lack of toxicity. Mycocten can be applied as a 5 per cent. alcoholic solution or in ointment form, with the following composition: ung. plumb. oxid. grams 60, liquid paraffin, mycocten, and salicylic acid aa. grams 3. The composition of this ointment is designed to promote maceration of the skin, which favours penetration of the drug; while at the same time the acid reaction inhibits the growth of the fungus. The author has found the therapeutic action of this ointment considerably enhanced by the addition of hydrargyrum amidochloridum (5 per cent.). Patients with an idiosyncrasy to mercury should, however, beware of this addition. The ointment is odourless and white, and its application is almost invariably followed by the prompt disappearance of itching and other symptoms. Every evening the feet are washed with soap and water to which a little soda has been added, and loose tags of skin are removed. The toes are carefully dried and then bathed with the

alcoholic solution of mycocten. When this has dried a thin layer of the ointment is applied. This procedure is repeated next morning. The stockings are disinfected with methylated spirits and are then dusted with a talcum powder containing 5 per cent. mycocten and 5 per cent. salicylic acid. In slight cases, and for purely prophylactic purposes, the ointment can be dispensed with and only the alcoholic solution of mycocten used. It is applied once or twice a day on a pad of cotton-wool to the interdigital spaces. Though the same treatment can be applied to the hands it is apt to be less effective.

245 Convalescent Scarlet Fever Serum and Antitoxin

P. S. RHOADS and B. M. GASUL (*Journ. Amer. Med. Assoc.*, June 16th, 1934, p. 2005), from comparative observations on the protective value of convalescent serum and commercial scarlet fever antitoxin, come to the following conclusions. Cases have been observed in which the usual dose of scarlet fever convalescent serum administered to susceptible individuals failed to afford passive protection to the disease. On the other hand, the ordinary commercial scarlet fever antitoxin always afforded complete passive protection against scarlet fever in susceptible persons. Unless an unusually potent convalescent serum is used patients will receive more immune bodies from the therapeutic dose of scarlet fever antitoxin than from convalescent serum given in the usual dosage. Convalescent serum distributed through a serum centre costs much more per antitoxic unit than commercial antitoxin.

Radiology

246 Radiotherapy in Vasomotor Disorders of the Extremities

Owing to the action of x rays on the sympathetic nervous system, R. GILBERT and L. BABAIANTZ (*Rev. Méd. de la Suisse Romande*, July 25th, 1934, p. 725) have made use of them in vasomotor and trophic diseases of the extremities, such as intermittent claudication, Raynaud's disease, etc. Paravertebral irradiations of the sympathetic ganglia and deep plexuses, either alone or combined with irradiation of the peripheral endings, have given excellent results. The authors have employed this method in eleven cases, five of which are here recorded. With a semi-penetrating moderately filtered irradiation, total doses of 500 to 800 r , spread over two to three weeks, are given in bi- or tri-weekly irradiations; 175 r is given per field at each treatment. If results are not obtained, the series is repeated after an interval of two or three weeks. Spinal irradiations are first given, and, if improvement be tardy, peripheral ones are added. For diseases of the upper extremity, irradiations are made over the cervical and two first dorsal vertebrae, and for those of the lower limbs over the tenth dorsal to the first lumbar vertebrae.

247 X-Ray Treatment of the Thyroid and Thymus

While admitting that x -ray therapy can show a high percentage of successful results in the treatment of overactivity and of enlargement of the thyroid and thymus glands, H. DAVIES (*Brit. Journ. Radiol.*, June, 1934, p. 362) believes that, if cases of thyrotoxicosis were more carefully grouped and operation were regarded as the method of choice in the secondary type with x -ray treatment in the primary type, the results would be still better. Primary thyrotoxicosis occurring in the young adult is attended by an appreciable operation risk and an operation cure of only about 80 per cent., whereas the safer x -ray therapy can be shown by large series of cases to be just as effective. Davies considers that the indication for x -ray treatment in thyroid disease is overactivity of the secretory epithelium, while in the thymus not only has such secretory overactivity to be considered as an indication, but also simple enlargement due to overgrowth of the lymphoid tissue. A point to be emphasized is that recurrence in primary cases treated by opera-

tion is as high as 6 to 7 per cent., and this must be taken into account when considering the statistics of successful results in x -ray treatment as compared with operation. Where care is exercised, the risk of skin damage should be nil and the risk of myxoedema negligible. Moreover, x -ray treatment has the advantage that it can be graded, whereas at an operation the amount of thyroid tissue removed is final. The author has treated with x rays three cases of myasthenia gravis with enlargement of the thymus associated with enlargement of the thyroid and some hyperplasia. In one instance there was definite improvement after one month, persisting for eighteen months. In the other two cases there was immediate and striking improvement, but the sequel is unknown. The amount of radiation required to produce a good effect in the thymus is small. In view of the close connexion which has been shown to exist between the lymphoid tissue of the thymus and thyroid and other conditions, the thymus should receive careful attention when treatment is being undertaken.

248 Encephalography under Nitrous Oxide Anaesthesia

R. W. WAGGONER and L. E. HIMLER (*Amer. Journ. Roentgen. and Rad. Ther.*, June, 1934, p. 784) record thirteen cases of encephalography in which nitrous oxide anaesthesia obviated all subjective symptoms while the fluid was being removed, without preventing a quick return of consciousness. This anaesthetic was found also to diminish the severity of the post-encephalographic reaction. The pulse rate, blood pressure, and respiration rate were recorded every few minutes, and no adverse manifestations were noted, whereas without an anaesthetic the pulse frequently becomes weak and thready after about 50 c.cm. of spinal fluid has been removed. The only objection is the additional expense involved. The increase in initial intracranial pressure consequent upon its use does not appear to be a contraindication. The age of the patients in the authors' series ranged from 3 to 56 years. The average time required for drainage of the fluid was slightly under one hour. The authors add that no cases with choked disks or posterior fossa tumours have been included so far, although two with frontal and temporal tumours were clearly localized by this method. These two patients were up and free from headache in less than forty-eight hours.

Obstetrics and Gynaecology

249 Symphysiotomy

W. HAUPT (*Med. Welt*, June 23rd, 1934, p. 863) records that at Bonn in the past fifteen years thirty sections of the bony pelvis have been done, in comparison with 585 Caesarean sections. He believes that the former operation still has definite, if limited, indications. It should not, in general, be done if the conjugate in the flat pelvis exceeds 7.5 cm., or in multiparae—although Zarate included thirty-two primiparae in his series of 100 operations, with one fatality only. According to collected mortality statistics, symphysiotomy, in rightly chosen cases, has a considerably better maternal and a slightly better foetal outlook. Technically, Haupt recommends that the division be done with the guidance of the left index in the vagina, pushing the urethra sideways, and the left thumb pressing the clitoris outwards. The pre-urethral ligament is respected, the arcuate ligament as a rule divided. The division of the cartilage is accompanied by slight abduction and external rotation of the thighs; so soon as it has been slowly completed, with gradual parting of the pubes, the thighs must be adducted and rotated internally to avoid injury of the sacro-iliac joints. In general, labour is completed, after downward pressure of the head into the pelvis, by forceps. The knees are afterwards tied together by a handkerchief, and a pelvic girdle is applied, the crossed anterior ends of which are led over pulleys at the sides of the bed, and subjected to traction for some eight days, sandbags also

being applied outside the hips. In twenty-three personal cases the mortality comprised one only—an eclamptic case. Bleeding and injuries were negligible: four infants did not survive.

250 Aetiology and Treatment of Pregnancy Pyelitis

F. v. MIKULICZ-RADECKI (*Zentralbl. f. Gynäk.*, June 30th, 1934, p. 1506) expresses his astonishment that the importance of ureteral, or rather pelvirenal, catheterization in the treatment of pyelitis in pregnancy is not generally recognized. It is still doubtful, he thinks, whether pressure of the enlarging uterus is an important favouring factor, and whether the renal parenchyma is affected: certainly the vesical mucosa is rarely inflamed. Pyelitis in pregnancy demands as concomitant factors: (1) urinary infection, usually by *B. coli*; (2) stasis in the ureter—this is due, v. Mikulicz-Radecki believes, to angular kinking, with or without torsion, of the lax, spinally slung, uppermost section of the ureter. (Atonicity of the ureter during pregnancy is a proved physiological condition. Acute kinking of the ureter during pregnancy, in the absence of urinary infection, leads to acute pain and rigidity, without morbid urinary findings: acute appendicitis may be closely simulated, but catheterization of the ureter will usually relieve the pain and settle the diagnosis.) In pyelitis of pregnancy the best treatment is found in catheterization and irrigation of the renal pelvis. Many apparent failures are due to omission to pass the catheter sufficiently high.

251 Atrophy of Female Genitals after Castration

F. RÓZSA (*Thèse de Paris*, 1934, No. 350), who records nine illustrative cases in women aged from 33 to 55, states that surgical castration in women may be followed by trophic disturbances which may affect the whole or part of the genital tract remaining after the operation. Subtotal hysterectomy is succeeded by atrophy of the cervix and diminution of the secretion of the glands of the cervix, while the vulva and vagina undergo a sclerotic retraction similar to the kraurosis vulvae of old age. The trophic disorders of castration are mainly due to removal of the ovary and the complete disappearance of its internal secretion. The preservation of a single ovary or the activity of an ovarian graft appears to be sufficient to protect the patients from these trophic changes without the uterus being preserved. Treatment is mainly preventive. In some cases it is possible to keep a part of the uterus or one of the ovaries. When atrophy of the genitals has taken place the treatment must be general by administration of ovarian extract and local by dilatation with the speculum or dressings. When the atrophy is associated with leucoplakia the affected tissues should be excised as freely as possible so as to prevent cancer of the vulva.

Pathology

252 Factors Predisposing to Infection with *Cl. septique*

GRIZEL R. BORTHWICK (*Brit. Journ. Exper. Path.*, June, 1934, p. 153) has carried out experiments on guinea-pigs to determine the conditions favouring infection with the anaerobic spore-bearing organism, *Cl. septique*, from the alimentary tract. Cultures of this organism rarely set up infection when fed to normal guinea-pigs—for example, in a series of thirty animals tested not a single death occurred. Adjustment of the gastric contents to pH 7.6 did not seem to favour infection, only one out of twenty-one guinea-pigs dying. Similarly, adjustment to pH 5, which was found to be the most favourable H-ion concentration for the activity of the toxin, had little effect in favouring infection; only three out of twenty-one animals died. On the other hand, inhibition of peristalsis by previous administration of narcotine led to the death of fifteen out of twenty-one animals when the pH of the gastric contents was not adjusted, and to the death of

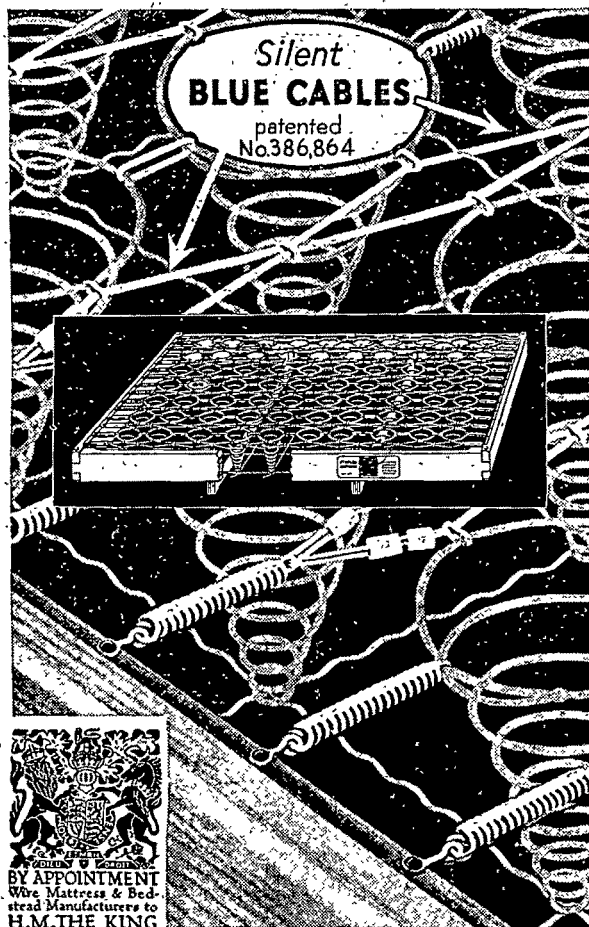
fifteen out of twenty animals when the pH was adjusted to 7.6. Previous exposure to cold led to the death of nine out of twenty animals when the pH was not adjusted, and to the death of sixteen out of twenty when it was adjusted to 7.6. Cooling of the culture to 0° C. had much less effect; only four out of twenty-two animals died under these conditions. It appears, therefore, that the two most important factors predisposing to infection are stasis of the gastro-intestinal tract and exposure of the animals to a low temperature. It was thought that exposure to cold might act by inhibiting peristalsis, but experiments failed to lend any support to this view. The feeding to guinea-pigs of toxin alone, in 8 to 10 c.cm. quantities, proved harmless, nor did the administration of narcotine or the adjustment of the gastric contents to pH 5 or pH 7.6 render it active. This suggests that the toxin is not absorbed from the intact mucosa of the stomach or intestine.

253 Effect of Supersonic Waves on Bacteria

A. C. H. YEN and SZU-CHIH LIU (*Proc. Soc. Exp. Biol. and Med.*, June, 1934, p. 1250) have studied the destructive action of supersonic waves on a number of different bacterial species. The waves, which consist of actual molecular vibrations, were produced by means of an oscillating current, the quartz plate being adjusted to vibrate at 1.5×10^6 times per second. The bacterial suspensions to be exposed were placed in a test tube, 15 mm. in diameter, containing a glass cooling-coil to prevent the temperature rising above 20° C. Plate counts were made before exposure and at intervals up to ninety minutes during exposure. There seemed to be a more or less continuous variation in the susceptibility of the different species of bacteria to the supersonic waves. The anthrax bacillus, for example, seemed to be very little affected. A definite reduction occurred in the numbers of *B. subtilis*, and a still greater reduction in those of a group of nasopharyngeal organisms, including Pfeiffer's bacillus, *N. catarrhalis*, and *Str. haemolyticus*, together with *Staphylococcus aureus*. *B. coli* and *B. typhosum* were completely destroyed in ninety minutes, while *proteus* X 19 and Shiga's dysentery bacillus survived for only forty-five to sixty minutes. The mechanism of action of the supersonic waves was not determined, but studies on the opacity of the suspensions suggested that actual cellular disintegration was occurring with the liberation of protein which subsequently underwent coagulation.

254 Outbreak of Botulism

A. STRÖM (*Tidsskr. f. d. Norske Lægefor.*, June 15th, 1934, p. 633) gives an account of a small epidemic of botulism traced to an infected ham. In the middle of December, 1933, a servant girl fell ill, her most troublesome symptom being paresis of the accommodation of the eyes, lasting between one and two months. The next two cases on the same farm developed at Christmas, the illness lasting only a week or two. Early in February three of the farm's workers left it temporarily, and after a couple of days one of them had to return home, feeling ill. His place was taken by another worker, who after a couple of days became very ill, his illness lasting several weeks, and his symptoms including paresis of the muscles of accommodation, the abducens, the intestines, and the bladder. In practically every case the disease began with diarrhoea and vomiting, which lasted twenty-four hours. A couple of days later dryness of the throat and giddiness were complained of, the pupil reflexes were absent, constipation was severe, and the patients were mentally sluggish. Though all recovered some were very exhausted, and the pulse in a couple of cases was up to 120. Suspicion fell on a couple of hams which the three workers had taken with them on leaving the farm. Samples of these hams and of eight others not yet cut into were sent to the State Institute of Hygiene in Oslo, where experiments on mice and guinea-pigs, supplemented by culture tests, demonstrated the presence of the *B. botulinus* in one of the first two hams. The mode of infection of this ham could not be discovered.



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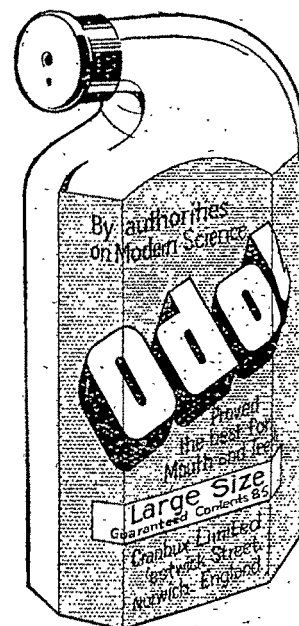
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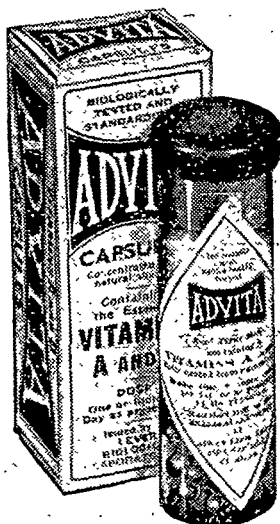


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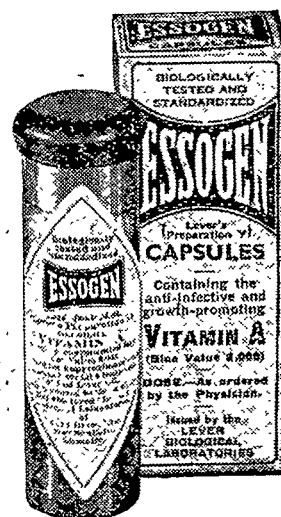
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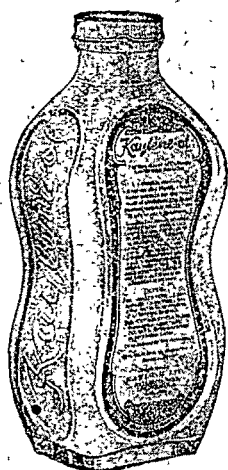
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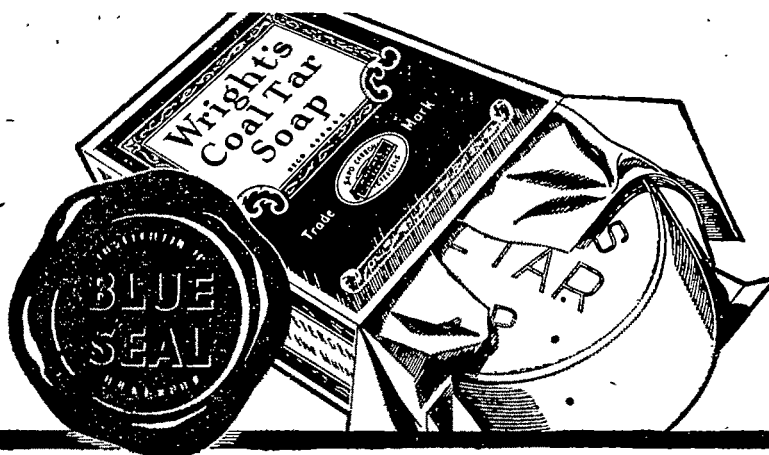
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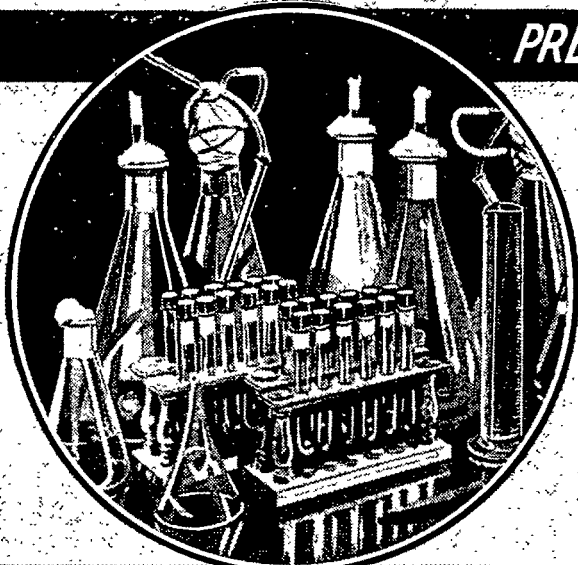


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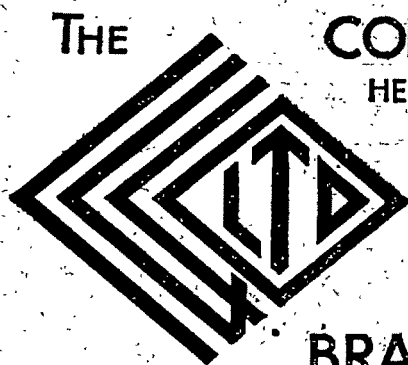
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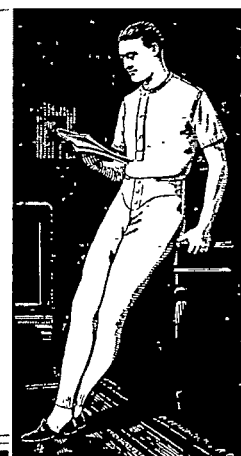
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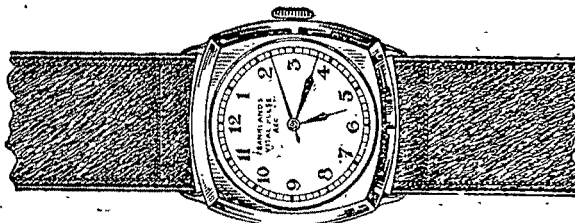
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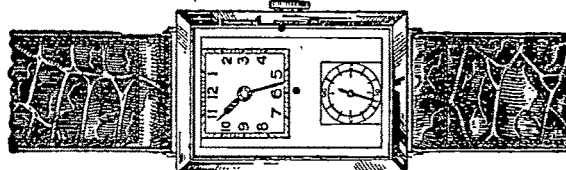


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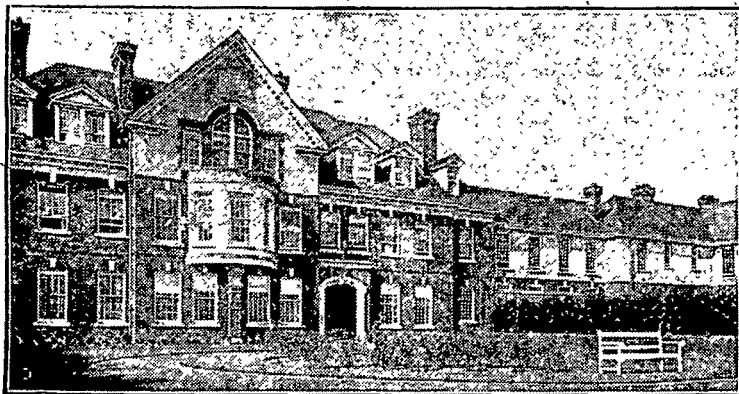
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Oral Prep. Course for next Exam. will commence shortly. Course includes Demonstrations of Museum (Surg., Path.) Specimens and Anatomical Dissections. Postal Tuition or "Reading Courses" at any time. Further particulars, **H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edin'gh.**

LONDON HOMOEOPATHIC HOSPITAL

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Education Facilities for Graduates and Senior Students of Medicine.

WINTER SESSION, 1934-35.

HONYMAN-GILLESPIE LECTURESHP

26th Year.

A Course of Lectures on **HOMOEOPATHIC MATERIA MEDICA AND THERAPEUTICS**, accompanied with **CLINICAL DEMONSTRATIONS**, are given by **CHARLES E. WHEELER, M.D., B.Sc.Lond.**, Consulting Physician to the London Homoeopathic Hospital, at the Hospital, on

Mondays and Thursdays, October, 1934, to March, 1935, commencing Monday, October 15th, at 5 o'clock.

On the first Thursday of the month the hour is 3.30 p.m.

THE COMPTON-BURNETT LECTURES

A Course of Ten Lectures on **HOMOEOPATHIC PHILOSOPHY AND PRESCRIBING**, as illustrated from the writings of the Organon and Modern Developments therefrom, are given by **SIR JOHN WEIR, K.C.V.O., M.B., Ch.B.Glasg.**, (Physician-in-Ordinary to H.R.H. the Prince of Wales), Senior Physician to the London Homoeopathic Hospital, are given at the Winter Session only on **Fridays, at 5 p.m., October to December—commencing Friday, October 12th.**

AN INTRODUCTORY LECTURE TO THE WHOLE EDUCATION COURSE will be delivered at the Hospital on **Thursday, October 11th, 1934, at 5 p.m.**

By **STUART MCAUSLAND, B.A.Lond., M.D., Ch.B.Lpool, M.R.C.S.Eng., L.R.C.P.Lond.**

Subject: "**To-day's Need of Homoeopathy.**"
All Medical Men and Women are invited to attend this Lecture.

TUTORIAL CLASS.

A class for individual study of the **Materia Medica** by the Repertory and References to Patients are conducted by **DOUGLAS M. BORLAND, M.B., Ch.B.Glasg.**, Physician to the London Homoeopathic Hospital, on

Fridays, at 6.15 p.m., October to March—commencing October 12th.

CLINICAL TUTORIALS.

On **Monday and Friday afternoons, at 2 o'clock**, throughout both the Winter and Summer Sessions, the Registrar Tutor to the Hospital, **WILLIAM WILSON RORKE, M.B., Ch.B.Glasg.**, who is also Physician for Diseases of the Nervous System at the London Homoeopathic Hospital, conducts an Out-patient Clinic for the purpose of instruction in the application of Homoeopathic principles.

THE SIR HENRY TYLER SCHOLARSHIP COMMITTEE

also offer **SCHOLARSHIPS of £20** for Medical Men in the Provinces desirous of taking a Post-Graduate Course at the London Homoeopathic Hospital during the Ten Compton-Burnett Lectures.

Prospectus and further information regarding scholarships may be obtained on application to the Dean of the Education Course, London Homoeopathic Hospital, W.C.1.

NORTH-EAST LONDON

POST-GRADUATE COLLEGE.

PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

The Practice of the Hospital is limited to Medical Practitioners. Particulars from **J. BROWNING ALEXANDER, M.D.**, Dean.

INCORPORATED

SOCIETY OF CHIROPODISTS.
FOUNDED 1912.

Patron: **HIS GRACE THE DUKE OF PORTLAND, K.G., P.C., G.C.V.O.**

The regulations of the Society PROHIBIT Members from advertising, but names and addresses of Chiropractors in the district who are Members of the Society (M.S.Ch.), also information regarding training for Membership, may be obtained from the Secretary, Incorporated Society of Chiropractors, 21, Cavendish Square, London, W.1. (Tel.: Langham 3228.)

GRESHAM COLLEGE, BASINGHALL ST., E.C.2.—FOUR LECTURES on the Rheumatic Diseases, illustrated, will be delivered by **J. ALISON GLOVER, O.B.E., M.D., F.R.C.P., D.P.H.**, on **October 9th, 10th, 11th, and 12th, 1934, at 6 p.m.** Admission free.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

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(FOUNDED IN 1882.)

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Final **162**

M.R.C.P. (Lond.), 1919-33 **232**

D.P.H. (Various) 1906-33 (Completed Exam.) **325**

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MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. Particulars of all Medical Examinations, Postal Courses, and Oral Classes. Suggestions for the Higher Medical Examinations. Suggestions for the Higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Courses. Openings for Women: Hints for writing theses.

Medical Prospectus gratis, along with list of Tutors, etc., on application to the Principal, **Mr. E. S. WEYMOUTH, M.A.**, 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

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Modern methods under medical supervision. Own Farm.

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LIVERPOOL SCHOOL OF TROPICAL MEDICINE

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on **October 1st, 1934**, and **January 3rd, 1935**, and for the Diploma in Tropical Hygiene on **January 10th and April 25th, 1935**. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Laboratory Secretary, School of Tropical Medicine, Pembroke Place, Liverpool, 3.

UNIVERSITY OF LONDON

A COURSE OF THREE LECTURES on "**Physiological Equilibrium**" will be given by **Prof. L. J. HENDERSON** (Professor of Biological Chemistry in Harvard University) at **UNIVERSITY COLLEGE, LONDON**, (Gower Street, W.C.1) on **OCTOBER 16th, 17th, and 18th, at 5 p.m.** At the First Lecture the Chair will be taken by **Prof. A. V. HILL, O.B.E., M.A., Sc.D., F.R.S.** (Professor of Physiology in the University).

Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

THE HOSPITAL FOR SICK CHILDREN,

GREAT ORMOND STREET, LONDON, W.C.1

MEDICAL SCHOOL

A SPECIAL POST-GRADUATE COURSE on DISEASES OF CHILDREN
of a fortnight's duration will be held at the above Hospital from OCTOBER 22nd to NOVEMBER 3rd.

The Course will occupy both mornings and afternoons; mornings 10 a.m. to 1 p.m., afternoons 2 p.m. to 4 p.m., except Saturdays 10 a.m. to 1 p.m., and will consist of 50 Clinical Lectures and Demonstrations and 6 Laboratory Demonstrations. The fee for the whole Course will be £6 6s., or £3 3s. for either week.

All communications regarding the course should be addressed to the Secretary, Hospital for Sick Children, Great Ormond Street, London, W.C.1.

H. F. RUTHERFORD, *Secretary.*

W. G. WYLLIE, *Dean.*

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admission being primiparous cases). Over 2,700 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 20,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.
For rules, fees, etc., apply H. B. STOKES, Secretary-Superintendent.

HIGHER MEDICAL QUALIFICATIONS

Are you desirous of obtaining one of the special higher qualifications?

Diploma in Psychological Medicine.
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Diploma in Public Health.
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All Higher Medical and Surgical Degrees and Diplomas.

You can qualify for any of the above by our Courses of Combined Postal and Practical Courses. Write at once stating your requirements to the

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Examination in which interested {

UNIVERSITY OF OXFORD. DIPLOMA IN OPHTHALMOLOGY.

The next Examination begins on June 24th, 1935. The two months' Course of Instruction starts on April 29th, 1935. For further information apply to—
P. H. ADAMS,
6, Holywell, Margaret Ogilvie Reader
Oxford. in Ophthalmology.

UNIVERSITY OF CAPE TOWN. LECTURER IN ANATOMY.

Applications are invited for the post of LECTURER in the Department of Anatomy. The commencing salary will be not less than £400 and not more than £475 per annum, according to qualifications, viz., previous teaching or other experience or original work published. The salary of a lecturer rises by annual increments of £25 to £500, and subject to the conditions of appointment may rise by like increments to £600 or in certain cases to £750.

The lecturer must become a Member of the University Teachers' Superannuation Fund. The successful candidate will be expected to assume duty by March 1st, 1935. Salary will be paid from February 1st, 1935, if the lecturer has vacated his previous post on or before January 31st, 1935, and reports for duty on or before February 25th; otherwise salary will be paid from date of assumption of duty.

Applications (in duplicate) must reach the Secretary to the High Commissioner for the Union of South Africa, Trafalgar Square, London (from whom forms of application and a memorandum giving the conditions of appointment may be obtained) not later than November 7th, 1934.

ROYAL EYE HOSPITAL, St. George's Circus, S.E.1.

Applications are invited for the Royal Eye Hospital RESEARCH SCHOLARSHIP. Value £100 per annum. Applications are to be received by November 14th.

For further particulars apply to the Dean.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

Applications are invited from Medical Men for the LEVERHULME RESEARCH FELLOWSHIP (£600 per annum), tenable at the Sir Alfred Lewis Jones Research Laboratory, Sierra Leone, West Africa.

Applications should be addressed to the Secretary, School of Tropical Medicine, Pembroke Place, Liverpool, 3.

BAGHDAD.—A VACANCY EXISTS IN THE CHAIR OF MATERIA MEDICA (including Pharmacology, Therapeutics) in the Royal College of Medicine. Contract for 5 years. Salary I.D.960 to I.D.1,200 p.a., according to qualifications. Consulting private practice allowed. — Apply, BRITISH MEDICAL BUREAU, 12, Stratford Place, Oxford Street, W.1.

THE INFANTS HOSPITAL. Vincent Square, Westminster.

Applications are invited for the post of HOUSE PHYSICIAN. Salary at the rate of £75 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, to be forwarded to the undersigned not later than October 13th.

ALFRED J. SMALL, Secretary.

CITY OF LIVERPOOL. THIRD SENIOR ASSISTANT RESIDENT MEDICAL OFFICER.

Applications are invited for the above appointment at the Walton Hospital, Rice Lane, Liverpool (1,650 beds), for a period of twelve months. Candidates must be single, fully qualified and registered, have had at least two years' continuous hospital experience since qualification, and possess special experience in surgery.

Salary at the rate of £350 per annum, together with the usual residential allowances. All fees received in connection with the appointment to be handed over to the City Council.

The appointment will be made in accordance with the Standing Orders of the City Council and will be determinable by one calendar month's notice on either side.

Canvassing, either directly or indirectly, will be deemed a disqualification.

Applications, upon forms to be obtained from the Medical Officer of Health, Municipal Annexe, Liverpool, to be endorsed "Third Senior Assistant Medical Officer," and returned to the undersigned so as to be received not later than Friday, October 19th.

Municipal Buildings, WALTER MOON,
Dale Street, Town Clerk.
Liverpool, 2.

COUNTY BOROUGH OF BURNLEY. MUNICIPAL GENERAL HOSPITAL.

JUNIOR RESIDENT MEDICAL OFFICER.

Applications are invited from fully qualified Medical Practitioners for the position of Junior Resident Medical Officer at the Municipal Hospital, Burnley. The appointment will be for a period of twelve months.

Salary at the rate of £150 per annum and full residential emoluments. The officer appointed will be required to refund to the Council all fees, allowances, and emoluments received (other than the foregoing).

Further particulars and application form may be obtained from the Medical Officer of Health, St. James' Street, Burnley, to whom applications, together with three recent testimonials, should be forwarded not later than October 24th.

CANVASSING, EITHER DIRECTLY OR INDIRECTLY, WILL BE A DISQUALIFICATION.

Town Hall, COLIN CAMPBELL,
Burnley. Town Clerk.

COUNTY OF ABERDEEN. PUBLIC HEALTH DEPARTMENT.

ASSISTANT MEDICAL OFFICER OF HEALTH.

Applications are invited for the post of Assistant Medical Officer of Health for the County of Aberdeen.

Applicants must possess the Diploma in Public Health and have had previous experience in public health work. The duties will include the examination of school children, maternity and child welfare work, and general public health work within a defined area. The successful applicant will be required to reside in a centre within the County other than the City of Aberdeen.

The salary will be at the rate of £500 per annum, with increments of £25 per annum for eight years. Travelling and other expenses will be allowed according to the Council's scale.

Applications (forms for which may be obtained from the undersigned) must be lodged with him, together with thirty copies of three recent testimonials, not later than October 15th.

H. L. F. FRASER,
County Buildings, County Clerk.
Aberdeen. September 27th, 1934.

QUEEN'S HOSPITAL, BIRMINGHAM.

Applications are invited for the following posts:

1. ASSISTANT OBSTETRICAL AND GYNAECOLOGICAL SURGEON. Candidates must be Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland.
2. PHYSICIAN FOR OUT-PATIENTS. Candidates must be Graduates in Medicine of a University in Great Britain or Ireland, also Fellows or Members of the Royal College of Physicians of London, Edinburgh, or Ireland.

The appointments respectively will be made for one year, with eligibility for re-appointment annually for a further two years, when, if the Committee so decide, they will be made permanent.

Honorarium £50 per annum. Applications, stating nationality, experience, qualifications, date of birth, together with evidence of diploma and testimonials, must reach the undersigned by Saturday, October 20th next.

Birmingham. G. HURFORD, House Governor.
September 25th, 1934.

ROYAL BERKSHIRE HOSPITAL, READING.

The following VACANCIES. (Male) will occur on or about November 1st.

Appointments are for six months in the first instance, and all candidates must be fully qualified and registered.

Remuneration at £125 per annum, with board, residence, laundry.

ONE HOUSE PHYSICIAN.

ONE HOUSE SURGEON for Special Departments (Ear, Nose, and Throat, Ophthalmic, X-ray).

ONE CASUALTY OFFICER (for 3 months, with 3 subsequent months) as Resident Anaesthetist.

ONE RESIDENT at Branch Hospital of Recovery, with duties in Pathological Laboratory of parent Hospital.

Application, with copies of testimonials, to be sent to the undersigned on or before October 17th.

F. A. LYON, Secretary.

ST. MARY'S HOSPITAL, W.2. CASUALTY HOUSE SURGEON.

Applications are invited from duly qualified candidates for the post of Casualty House Surgeon. Candidates must have been House Surgeons for a full period of office to this Hospital or to some other general hospital approved by the Board.

The salary is £100 per annum, with board and residence, and the appointment is for six months.

Applications, with copies of testimonials, not exceeding three in number, should reach the undersigned (from whom particulars of the office may be obtained) on or before Saturday, October 20th.

The successful candidate will be expected to take up the duties on November 1st.

W. PARKES, House Governor.

BATH AND WESSEX CHILDREN'S ORTHOPAEDIC HOSPITAL, COMBE PARK, BATH. (120 Beds, serving Somerset, Wilts, and Dorset.)

HONORARY VISITING SURGEON required. Particulars from the Secretary, to whom applications should be submitted by October 15th.

Also required immediately, RESIDENT ASSISTANT SURGEON, to act also as Surgical Registrar.

Salary £350, rising by £25 per annum to £450. Probationary period of 12 months. Must have had Specialist Orthopaedic experience.

Applications, stating qualifications, together with not more than three recent testimonials, to be sent to the Secretary by October 22nd.

NEWCASTLE-UPON-TYNE EYE HOSPITAL, ST. MARY'S PLACE.**HONORARY OPHTHALMIC SURGEON.**

The Committee of Management invites applications for the post of Honorary Ophthalmic Surgeon. Applications, with testimonials, should be sent to the undersigned on or before October 22nd, stating age, qualifications, and experience.

(Signed) CHARLES E. V. UPTON, Secretary.

NORTH ORMESBY MIDDLESBROUGH HOSPITAL.

The Council invite applications for the post of HONORARY ASSISTANT SURGEON.

Applications, stating age, qualifications, and experience, accompanied by copies of testimonials, should be sent to the undersigned not later than Friday, October 12th.

GEORGE WATTS, Secretary-Supt.
Sept. 28th, 1934.

BRISTOL GENERAL HOSPITAL.

A meeting of the Election Committee will be held at the Hospital on Wednesday, October 24th next, at 2.30 p.m. to elect an HONORARY PHYSICIAN.

Application for the appointment will be made by Dr. J. A. BRADLEY, Honorary Assistant Physician.

Also, to elect an HONORARY ASSISTANT PHYSICIAN. By Section VII, S.S.I., of the Rules of the Hospital: No person shall be eligible to the office of Assistant Physician unless he possess a registered medical qualification and undertakes to practice solely as a Physician.

Candidates are requested to send their application, with copies of testimonials and proof of qualification, to the undersigned on or before Monday, October 22nd next, from whom further particulars may be obtained. Every candidate is also required to forward a copy of his application and testimonials to each member of the Election Committee.

By Order of the Committee,
THOMAS W. GREGG, Secretary.

METROPOLITAN HOSPITAL, Kingsland Road, E.8.

There are vacancies for the following:

- (a) SENIOR HOUSE PHYSICIAN;
- (b) SENIOR HOUSE SURGEON;
- (c) JUNIOR HOUSE PHYSICIAN;
- (d) JUNIOR HOUSE SURGEON;
- (e) CASUALTY OFFICER;

males. Salary £100 p.a.

Appointments in the first place will be for a period of six months dating from November 1st.

Candidates must possess a registered Medical and Surgical qualification of the United Kingdom.

Applications, stating age, nationality, etc., with copies of three recent testimonials, and a certificate of ability to administer anaesthetics, should be sent to the undersigned by first post on Monday, October 8th.

Two Members of the Resident Staff are candidates for the two Senior appointments.

GEO. W. COOLING, Secretary & House Governor.

ALTRINCHAM GENERAL HOSPITAL. (100 Beds.)

Applications are invited for the post of SENIOR HOUSE SURGEON. Salary at the rate of £150 per annum, with board, etc. Six months' appointment, to commence duty as soon as possible. Applications, stating age, nationality, qualifications, etc., to be addressed to the undersigned.

ALSO.

Applications are invited for the post of JUNIOR HOUSE SURGEON. Salary at the rate of £120 per annum, with board, etc. Six months' appointment to commence duty on November 1st. Applications, stating age, nationality, qualifications, etc., to be addressed to the undersigned.

E. A. BIDEN, Secretary.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.**APPOINTMENT OF HOUSE SURGEON.**

Applications are invited from unmarried Medical Men for the appointment of House Surgeon, vacant on November 1st next. The salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.

Applications, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on October 20th next.

BRISTOL ROYAL INFIRMARY.

Applications are invited for the post of HONORARY ASSISTANT SURGEON. Candidates, who must be Masters of Surgery of one of the Universities of Great Britain or Ireland or Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland, to send in their applications, stating age and accompanied by copies of not more than three recent testimonials, to the undersigned on or before October 20th.

ELLIS C. SMITH, F.C.I.S., Secretary & House Governor.

BRISTOL ROYAL INFIRMARY.

Applications are invited for the post of HONORARY SURGEON. Candidates who must be Masters of Surgery of one of the Universities of Great Britain or Ireland, or Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland, to send in their applications, stating age and accompanied by copies of not more than three recent testimonials, to the undersigned on or before October 20th.

ELLIS C. SMITH, F.C.I.S., Secretary & House Governor.

FREE EYE HOSPITAL, SOUTHAMPTON. (26 Beds.)

Applications are invited for the appointment of HONORARY OPHTHALMIC SURGEON.

Candidates must have held an appointment for at least six months in a recognised Ophthalmic Hospital, or in the Ophthalmic Department of a General Hospital.

Candidates must not be engaged in general practice.

The Honorary Assistant Ophthalmic Surgeon is a candidate for the appointment, and if he should be elected the Committee will proceed to elect an Honorary Assistant Ophthalmic Surgeon, for which post applications are also invited.

Candidates are requested to forward their applications, accompanied by not more than three testimonials, to the undersigned so as to arrive not later than November 3rd.

Canvassing by or on behalf of any candidate will disqualify.

E. T. KEMP, Secretary.

ST. BARTHOLOMEW'S HOSPITAL, ROCHESTER. Rochester, Chatham, Gillingham, and District. (126 Beds.)

The House and Finance Committee invite applications for the post of HOUSE PHYSICIAN, vacant December 1st.

Candidates must be unmarried, qualified, and registered Medical Men. The appointment is for six months. Salary at the rate of £175 per annum, with board, residence, and laundry. The officer appointed will have charge of the medical beds. Some knowledge of Ophthalmic work is desirable.

Applications, stating age, qualifications, and experience, accompanied by copies of three recent testimonials, to be sent to the Secretary not later than October 18th.

Canvassing the Honorary Staff will disqualify.

THE VICTORIA HOSPITAL FOR CHILDREN, Tite Street, Chelsea, S.W.3. (138 Beds.)

The Committee of Management invite applications for the post of SENIOR RESIDENT MEDICAL OFFICER (Male), vacant November 1st. The appointment is for one year. Salary £200 per annum, with board, lodging, and washing, and certain fees from the private wards.

Candidates must have previously held a hospital appointment. They must attend the Hospital for the purpose of an interview on Tuesday, October 16th, at 5.30 p.m. (No travelling or other expenses will be paid.)

Applications, with copies of three recent testimonials, should be sent to the Secretary not later than the first post on Monday, October 15th.

D. ST. JOHN BAMFORD, Secretary.

THE VICTORIA HOSPITAL FOR CHILDREN, Tite Street, Chelsea, S.W.3. (138 Beds.)

The Committee of Management invite applications for the post of HONORARY SURGICAL REGISTRAR, vacant November 1st. Candidates are expected to call on members of the Honorary Surgical Staff. The appointment is for one year, renewable for a second year.

Applications, with copies of three recent testimonials, should be sent to the Secretary not later than Monday, October 15th.

D. ST. JOHN BAMFORD, Secretary.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL. WANTED.

ONE MEDICAL OFFICER to the Special Departments and RESIDENT ANAESTHETIST (dual appointment). Salary £60 per annum, including board and residence.

ONE RESIDENT CASUALTY OFFICER. Salary £100 per annum, including board and residence.

The appointments will be for a period ending March 31st, 1935.

Applications and copies of testimonials to be sent to the undersigned at once.

FRANK SOLMAN, Supt. & Secretary.

ROYAL EYE HOSPITAL, Pevensey Road, EASTBOURNE, SUSSEX.

NON-RESIDENT HOUSE SURGEON required, to commence duty forthwith on election. Experience in refraction work essential. Salary £100 per annum, with, in addition, an allowance of £150 per annum in lieu of board, residence, and laundry, the place of residence being subject to the approval of the Executive Committee. The appointment will be for six months in the first instance, the holder being eligible for a further period of six months.

Application, stating age, qualifications, and with copies testimonials, should reach the undersigned on or before October 31st next.

HAROLD BYGRAVE, Hon. Secretary.

APPOINTMENTS.—Important Notice.

Medical practitioners are requested **not to apply** for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	CONTRACT PRACTICE (contd.)	PUBLIC HEALTH (contd.)
EBBW VALE, MON. (Workmen's Medical Society.)	NEATH AND DISTRICT. (Medical Aid Association.)	CITY OF SALFORD. (Resident Obstetric Officer, Hope Hospital.)
GILFACH GOCH, GLAMORGAN. (Workmen's Medical Scheme.)	OAKDALE, MON. (Medical Officer for Medical Aid Association.)	CITY OF SALFORD EDUCATION COMMITTEE (Assistant School Medical Officer.)
LLANELLY AND DISTRICT WORKMEN'S MEDICAL COMMITTEE. (All Medical Appointments.)	OGMORE VALLEY, GLAMORGAN. (Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)	CITY OF STOKE-ON-TRENT EDUCATION COMMITTEE. (Assistant School Medical Officer.)
LLWYNPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. (Workmen's Medical Scheme.)	PUBLIC HEALTH	COUNTY BOROUGH OF TYNEMOUTH. (Assistant Medical Officer of Health—Male.)
LOWESTOFT MEDICAL INSTITUTE. (Medical Officer.)	CORNWALL COUNTY COUNCIL. (Medical Superintendent—Tehidy Sanatorium, Cornwall.)	PUBLIC ASSISTANCE
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	COUNTY COUNCIL OF KINCARDINE. (Deputy Medical Officer of Health.)	COUNTY BOROUGH OF BARROW-IN- FURNESS. (District Medical Officer.)

(b) Overseas.

Medical practitioners are requested **not to apply** for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. (All Friendly Society Appoint- ments.)	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Mac- quarie St., Sydney, N.S.W.	QUEENSLAND. (Brisbane Asso- ciate Friendly Societies Insti- tute.)	The Hon. Sec., Queens- land Branch, British Medical Association, B.M.A. Building, Ade- laide St., Brisbane.	WELLINGTON, NEW ZEALAND (Contract Practice Appointments.)	Dr. G. F. V. ANSON (Hon. Sec., New Zea- land Branch), British Medical Association, P.O. Box 156, Wellin- gton, New Zealand.
VICTORIA. (All Institute or Medical Dispen- saries.)	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medi- cal Association, Medi- cal Society Hall, East Melbourne, Victoria.			WESTERN AUSTRALIA (Contract and Lodge Practices.)	Hon. Sec., Western Australian Branch, British Medical Associ- ation, "Shell House," 205, St. George's Ter- race, Perth, Western Australia.

October 3rd, 1934.

By Order of the Council.

G. C. ANDERSON, Medical Secretary.

ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS, MARGATE.

A MALE HOUSE SURGEON is required to take up his duty on or about October 13th. The salary is at the rate of £200 per annum, with board, residence, attendance, and laundry. Candidates for the post must be legally qualified and registered. The appointment is for six months, but may be extended for a further period of six months. There are 320 beds for adults and children which afford special opportunities for the study of surgical tuberculosis. Applications, stating age, previous appointments, with copies of three recent testimonials, should be sent to the Secretary, R.S.B.H. Offices, 16, York Buildings, Adelphi, London, W.C.2.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.

JUNIOR HOUSE SURGEON (male) required. Salary at the rate of £120 per annum, with board, residence, and laundry. Medical and surgical qualifications required. Eligible for Senior post at £150 per annum after a period of satisfactory service. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

ROYAL LANCASTER INFIRMARY. (140 Beds.)

JUNIOR HOUSE SURGEON (Male, British, single) required for November 1st. Salary £130 per annum, with board, residence, and laundry. The appointment is for six months. Applications, with copies of testimonials, should be addressed to the Hon. Secretary, Medical Committee, Royal Infirmary, Lancaster.

ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

Applications are invited for the following posts:

- RESIDENT ANAESTHETIST AND CASUALTY OFFICER for three months from October 22nd.
- HOUSE SURGEON to the Special Departments, with care of beds for ear, nose, and throat, eye, gynaecological, and maternity cases, for six months from October 31st, but terminable at an earlier date by one month's written notice on either side.

The salary of each officer will be at the rate of £130 per annum, with board, residence, and laundry.

Candidates (male), who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials, to the undersigned on or before Thursday, October 11th.

W. H. HEAD, Secretary-Supt.

THE CANCER HOSPITAL (FREE). (Incorporated under Royal Charter). Fulham Road, London, S.W.3.

Applications are invited for the post of ASSISTANT RADIUM OFFICER (full-time) at the Cancer Hospital (Free), Fulham Road, London, S.W.3. The appointment will be for one year at a salary at the rate of £350 per annum.

Applications, giving full particulars as to age, qualifications, etc., together with copies only of three recent testimonials, should be sent to the Secretary on or before Wednesday, October 10th.

CLEMENT COBBOLD, Secretary.

PRINCESS LOUISE KENSINGTON HOSPITAL FOR CHILDREN, St. Quintin Avenue, North Kensington, W.10. (80 Beds.)

HOUSE PHYSICIAN (male or female) required for six months from November 1st. Salary at the rate of £100 per annum, with board, residence, and laundry. It is desirable that candidates should have held a responsible Hospital appointment. Applications, with copies of three recent testimonials, must be submitted on a form to be obtained from the undersigned, and must reach him not later than Saturday, October 13th.

H. J. ELEY, Secretary.

ANCOATS HOSPITAL, MANCHESTER.

HOUSE SURGEON (General) to commence duty on November 1st next. Salary at the rate of £100 per annum, with board, residence, laundry, etc. Appointment for six months. Applications to be forwarded to the undersigned on or before Wednesday, October 10th, stating age, qualifications, and experience, if any, together with copies of three recent testimonials.

By Order of the Board,
HERBERT J. DAFORNE,
General Supt. & Secretary.

WEYMOUTH AND DISTRICT HOSPITAL, WEYMOUTH. (86 Beds and Cots.)

Wanted, November 1st, HOUSE SURGEON, Male (European). Salary £180 per annum, with board, residence, and laundry. Applications, stating age, qualifications, and copies of testimonials to be sent to the undersigned not later than October 10th.

MORRIS LODGE, Hon. Secretary.

(Appointments continued on p. 55)

NOT CLASSIFIED.

A COMFORTABLE HOME OFFERED GENTLEMEN in large flat, W.9 district; c.h.w., lift, telephone, lovely bath, and good cooking. Five buses to door. Convenient for all principal hospitals. — Address, No. 5953, B.M.A. House, Tavistock Square, W.C.1.

LONDON.—DEVONPORT HOUSE, 37, EARL'S COURT Square, S.W.5. ACCOMMODATION offered in high-class boarding house. Most central, 2 mins. from Earl's Court Station, and 10 mins. from Piccadilly. Bed and breakfast 6/6. Flaxman 1676.

TYPERWRITING, DUPLICATING, AND TRANSLATIONS. Experts in Medical work. TESTIMONIALS; THESE, etc., copied in style that commands attention. Accuracy guaranteed. — WOBURN BUREAU, 3, Upper Woburn Pl., W.C.1. (Adjoining B.M.A. House.) Euston 1775.

WOULD DR. EDWARD ALEXANDER ROBERTSON or anyone knowing his present temporary address kindly COMMUNICATE with Address, No. 5967, B.M.A. House, Tavistock Square, W.C.1.

ASSISTANCIES.

WANTED. — AN ASSISTANT FOR INDUSTRIAL Practice, Manchester. £300, indoor. Car not essential. Give usual details. — Address, No. 5987, B.M.A. House, Tavistock Sq., W.C.1.

WANTED. — ASSISTANT (ENG. OR SCOT), outdoor, male, single, Cheshire; ex-hospital resident and some G.P. experience essential. View Partnership if suitable after preliminary Assistantship. Salary £400 p.a. and £50 car allowance. — Address, No. 5974, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — ASSISTANT IN GENERAL PRACTICE, Scotsman preferred, with view to Partnership. Midlands, country. Some experience, thoroughly reliable and energetic. House available. Full particulars. — Address, No. 5878, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — ASSISTANT, OUTDOOR, MALE, single, English, Scotch, or Irish. (County Town, Cheshire.) Saloon-car for use in Practice. Dispenser kept. Usual bond. Salary according to experience. — Address, No. 5988, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — ASSISTANT, WITH VIEW TO Partnership if satisfactory, in large Practice in West London. Send particulars and photo, with stamped envelope for return. — Address, No. 5958, B.M.A. House, Tavistock Square, W.C.1.

WANTED IMMEDIATELY FOR PRACTICE in Midlands, keen and energetic male ASSISTANT. Some experience preferable. Salary £300 p.a., all found, plus allowance for car. Pleasant surroundings. — Address, No. 5960, B.M.A. House, Tavistock Square, W.C.1.

WANTED IMMEDIATELY. — INDOOR AND OUTDOOR ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars. — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

WANTED IMMEDIATELY. — SWANSEA. Testimonial ASSISTANT, with view for old-established, industrial, non-collary Practice. Salary £400 p.a. House. Excellent prospects suitable man. Photo, testimonials. — Address, No. 6060, B.M.A. House, Tavistock Sq., W.C.1.

WANTED. — INDOOR ASSISTANT, MALE, for mixed Practice in South Yorkshire. Salary £300—£350 nec. experience. Early vacancy. — Address, No. 5979, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — MARRIED ASSISTANTSHIP, near Newcastle-upon-Tyne, by Durham M.B.; B.S. Pleasant district. Commence December. Interview any time. Own car. Excellent testimonials. — Address, No. 5984, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — MIDDLE OCT., OUTDOOR ASSISTANT, for industrial, panel, and private Practice, Yorkshire. Male; single, English or Scotch, age under 30. Previous experience. Usual bond. £300 and all found. — Address, No. 5884, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — OUTDOOR ASSISTANT TO firm of three in pleasant city. Panel and private. No clubs. Clean industries. Dispenser-bookkeeper kept. Must be thoroughly experienced. Own car. Irish or English. Photograph and testimonials. — Address, No. 6058, B.M.A. House, Tavistock Square, W.C.1.

WANTED. OUTDOOR. MALE ASSISTANT (Industrial Town, near Manchester), salary £450, in large mixed Practice, with increase to suitable man. House available. Previous experience essential. Partnership would be considered after reasonable period. Usual bond. — Address, No. 5972, B.M.A. House, Tavistock Square, W.C.1.

ASSISTANT (MALE) WANTED FOR A MIXED Practice in the West-Riding, Yorks. £300, all found. — Address, with references, No. 5968, B.M.A. House, Tavistock Square, W.C.1.

ASSISTANTSHIP, OUTDOOR, WANTED BY L.R.C.P. and L.R.C.S.I., age 31, keen, energetic, and strict abstainer. Two years' experience of G.P. Accustomed to sole charge. Own car. Free now. — Address, No. 5980, B.M.A. House, Tavistock Square, W.C.1.

ASSISTANT REQUIRED, WITH DEFINITE view, in Country Practice in North Midlands. Indoor, male, British, experienced in G.P. £300. Salary, plus car allowance. Full particulars at interview. — Address, No. 6053, B.M.A. House, Tavistock Square, W.C.1.

ASSISTANTSHIP WANTED BY EX H.P., CAS. Officer, 3 years' qualified, experienced G.P., act. 31, male. Able to do minor surgery, anaesthetics. Keen. Free now. — Address, No. 5981, B.M.A. House, Tavistock Square, W.C.1.

ASSISTANT, WITH A VIEW TO PARTNERSHIP, wanted in a good-class Practice in Surrey. Age about 27, and capable of some surgery. Indoor at first. — Address, No. 5975, B.M.A. House, Tavistock Square, W.C.1.

ASSISTANTSHIP, WITH OR WITHOUT VIEW, wanted by Conjoint Man, English, Protestant, aged 34, married, experienced G.P. Good appearance, well received. Own car. Keen, energetic. Good testimonials. — Address, No. 5977, B.M.A. House, Tavistock Sq., W.C.1.

DENTAL-ASSISTANT WANTED FOR BRANCH Surgery in North London. — Address, No. 6051, B.M.A. House, Tavistock Square, W.C.1.

EXPERIENCED ASSISTANT WANTED IN Yorkshire immediately for 5 or 6 months, indoor. — Address, giving details of experience and other essential particulars, No. 5964, B.M.A. House, Tavistock Square, W.C.1.

FROM NOVEMBER 1ST, ASSISTANT, MALE. Experienced G.P. essential. Usual bond. References. Indoor. Salary £300. N. London. — Address, No. 5986, B.M.A. House, Tavistock Square, W.C.1.

MD., M.R.C.P. (LOND.), AGED 28, MANY house appointments, also G.P., requires ASSISTANTSHIP, with view succession, large Practice, panel or private. London or suburbs. — Address, No. 6056, B.M.A. House, Tavistock Square, W.C.1.

OVERSEAS GRADUATE, EXTENSIVE EXPERIENCE general practice, reading higher examinations, desires Part-time Indoor ASSISTANTSHIP, London; time studying; small remuneration only. — Address, No. 5961, B.M.A. House, Tavistock Square, W.C.1.

REQUIRED IMMEDIATELY, ASSISTANT with small amount of capital. Salary first 12 months £350, plus car allowance and free rooms. Partnership following. North London suburb. — Address, No. 5962, B.M.A. House, Tavistock Square, W.C.1.

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WANTED BY EXPERIENCED M.B., B.CH., PART-TIME WORK in London. Free November 1st. Own car. — Address, No. 6063, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — LADY, AGE 27, DESIRES post as RECEPTIONIST-CHAUFFEUSE; eight years' experience with Doctor. Highly recommended. — Address, "D. E." 54, Redcliffe Gardens, S.W.10.

WANTED. — LONDON. — PART-TIME WORK or ASSISTANTSHIP (if time for post-graduate study), by M.B., Ch.B. (Lady); ex H.S., H.P., Midwifery. — Address, No. 5985, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — NORTH WALES, LADY DISPENSER, Hall certificate, age about 28, knowledge of book-keeping, minor dressings. Salary £2 10s. weekly outdoor. — Apply, R. SUMNER & Co., Ltd., Manufacturing Chemists, 40, Hanover Street, Liverpool.

A Course of Training in Dispensing and Pharmacy is given at GORDON HALL SCHOOL OF PHARMACY, and Secretary-Dispensers can be supplied to Doctors. Sessions: January, April, and September. — Apply Principals, School of Pharmacy, Drayton House, Gordon Street, W.C.1. Phone: Museum 3930.

A LADY DISPENSER BOOKKEEPER supplied immediately on request; qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or phone (Bayswater 0969), Secretary, 7, Westbourne Park Road, W.2.

DOCTORS REQUIRING QUALIFIED Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or phone Temple Bar 5858, THE DISPENSERS' BUREAU, 3, Lindsay House, 17a, Shaftesbury Avenue, London, W.C.2.

INDIA. — CHIEF MEDICAL OFFICER, R.N. required for Copper Mine. Contract for 3 years, renewable. Commencing salary £700 p.a., increasing to £800 and free furnished quarters. Passage paid. Applicants should be over 30, and unmarried. — Apply, BRITISH MEDICAL BUREAU, 12, Stratford Place, Oxford Street, W.1.

LADY BOOKKEEPER-DISPENSER, HALL Certificate, DESIRES POST: Seven years' experience in large private and panel practice. Good references. — Address, No. 5982, B.M.A. House, Tavistock Square, W.C.1.

LADY DISPENSER - BOOKKEEPER (HALL) requires POST with Doctor or Doctors. Good experience and testimonials. Disengaged now. — "Miss W." 24, Hindes Road, Harrow, Middlesex.

POST REQUIRED (IN LONDON DISTRICT) by G.P. Take "Surgeries," or anything (midwifery excepted). Used to panel work. First-class Dispenser. Can book-keep. Reliable. Good recent references. — Address, No. 5978, B.M.A. House, Tavistock Square, W.C.1.

POST WANTED. — DOCTOR'S WIDOW (elderly), good health and energetic, desires post as HOUSEKEEPER to Doctor, also willing to do book-keeping. Maid kept. — Address, Mrs. MCC., 140, Lower Addiscombe Road, Croydon.

THE ROYAL ARMY MEDICAL CORPS ASSOCIATION, 85, Eccleston Square, S.W.1. (Telephone: Victoria 2722), supplies qualified Dispensers, Book-keepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

WELL-EDUCATED YOUNG LADY REQUIRES SECRETARIAL POST. Diplomas, fluent French. Part-time preferred. — Box 244, SMITH, 169, Finchley Road, N.W.3.

PARTNERSHIPS.

WANTED BY M.B., B.S., LONDON (BART'S), PARTNERSHIP in S. or W. of England. SHARE not less than £1,000. Exceptional hospital and G.P. experience. Aged 32. Capital available. — Address, No. 5971, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — M.D., F.R.C.S. (ENG.), EXPERIENCED Surgeon and Practitioner, desires first-class PARTNERSHIP or PRACTICE, with scope for Surgery. South or South-West preferred. — Address, No. 6057, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — PARTNERSHIP (PRELIM. Assist.) or PRACTICE by single Conjoint man, aged 35. Panel and private. Income about £1,500 or more. Ten years' experience general practice. London or Birmingham. — No. 5881, B.M.A. House, Tavistock Sq., W.C.1.

WANTED. — THIRD PARTNER, MIDDLE-class private and panel Practice established 30 years, 8 miles G.P.O. Little midwifery 3 to 5 guineas. Dispenser kept. Branch Surgery. Scope for further extension. Average receipts last 3 years £5,570. 1/3 share 2 years' premium. Must be Scotch or English, married preferred. House to rent or purchase. State age, experience, and testimonials. — Add., No. 5957, B.M.A. House, Tavistock Sq., W.C.1.

EXPERIENCED G.P., M.B., B.S. (LOND.), WITH small Practice, mainly appointments, SEEKS SHARE about £500 p.a., in sound general practice, mainly panel, within 20 minutes by bus from Charing Cross. — Address, No. 5959, B.M.A. House, Tavistock Square, W.C.1.

PARTNER (AFTER SHORT PRELIMINARY Assistantship) wanted in old-established Country Practice in Somerset. ONE-THIRD SHARE at two years' purchase. Energetic man, with experience of general practice, essential. Usual bond. No agents. — Address, No. 5957, B.M.A. House, Tavistock Square, W.C.1.

PARTNER WANTED, 1/3 SHARE OF SOUND unopposed County Practice, doing £3,400 p.a., 2 years' purchase, good panel, appts. Delightful house, garage, electric light, good garden, must be purchased. Capital essential.—No. 6059, B.M.A. House, Tavistock Sq., W.C.1.

SOUTH DEVON RESORT.—YOUNG, KEEN. PARTNER wanted for 1/3 SHARE, £2400 p.a., at 2 years' purchase (or might sell outright for £2,400). Vendor on staff of hospital. Panel 1,375. Some specialty an advantage. Interview—London, October 17th to 20th.—Add., No. 5969, B.M.A. House, Tavistock Sq., W.C.1.

PRACTICES.

WANTED IMMEDIATELY, PURELY OPHTHALMIC PRACTICE OR PARTNERSHIP in England. Early prospect of hosp. appt. Would consider preliminary Assistantship or Locum Tenency. Must be scope for operative work.—No. 5983, B.M.A. House, Tavistock Sq., W.C.1.

WANTED.—IN THE MIDLANDS.—COUNTRY PRACTICE. Average takings £1,000 p.a. Panel at least 500. House to rent, 5 bedrooms, not North aspect, with good garden.—Address, No. 5553, B.M.A. House, Tavistock Square, W.C.1.

WANTED.—PRACTICE OR PARTNERSHIP. Residential area in Northern or Eastern England preferred. Surgical prospects an advantage, but not essential. Educational facilities.—Address, No. 5954, B.M.A. House, Tavistock Square, W.C.1.

WANTED.—PRACTICE, WITH LARGE panel, 3,500 to 4,000, in London or Birmingham. Ample capital. Must stand fullest investigation.—Address, No. 6062, B.M.A. House, Tavistock Square, W.C.1.

WANTED, TO BUY OR EXCHANGE, PRACTICE, £1,200—£1,500, in Dorset, Devon, or E. Cornwall, for Practice 50 miles London. Average income £1,800.—Address, No. 6054, B.M.A. House, Tavistock Square, W.C.1.

DEATH VACANCY.—FOR IMMEDIATE SALE, old-established town and country PRACTICE in North. Average receipts £800. Convenient house in perfect repair. Splendidly situated. Good garage, garden, and stables. Educational facilities.—Address, No. 6052, B.M.A. House, Tavistock Square, W.C.1.

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HEREFORDSHIRE.—VERY OLD-ESTABLISHED, good-class PRACTICE, in country town. Good scope for surgery. Cottage Hospital. Receipts £1,100 p.a. Panel about £300 p.a. Premium 2 years' purchase. Excellent house.—THE WESTERN MEDICAL AGENCY, 22, Clare Street, Bristol, 1.

KENYA HIGHLANDS.—SMALL UNOPPOSED PRACTICE about £300 p.a., including appointment £120. Healthy farming district. Suit retired man wanting outdoor life with light duties. Big game shooting, trout-fishing, etc. Comfortable bungalow with 20 acres land, £1,000 inclusive.—Address, No. 5956, B.M.A. House, Tavistock Square, W.C.1.

MANCHESTER.—OLD-ESTABLISHED PRACTICE for sale, owner retiring. Good house £77. Receipts over £700. Panel 600, excellent scope. Price £750.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

MANCHESTER.—RESIDENTIAL DISTRICT. Excellent house, gardens, garage. Receipts £2,000, scope for increase, golf, tennis. Price, Practice, house, gardens, £6,500 or near offer, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown St.

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OLD-ESTABLISHED PRACTICE, 60 MILES from London. Average past 3 years £1,800. Panel 1,300. Premium 13 years' purchase. Large house for sale (or major part to remain on mortgage), nice garden, garage. Address, No. 5951, B.M.A. House, Tavistock Square, W.C.1.

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SURREY.—PRACTICE IN RAPIDLY GROWING district near London. Receipts last year £940. Panel about 255, increasing. Premium £1,500. House, with garden and garage.—THE WESTERN MEDICAL AGENCY, 25, South Molton Street, London, W.1.

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DEVONSHIRE STREET.—A VERY FINE MAISONNETTE will shortly be available in handsome Willett built Mansion, seven light rooms, kitchen, and two bathrooms, electric passenger lift. Also part-time use handsome Consulting Room. Rent £400 p.a.—Address, No. 5864, B.M.A. House, Tavistock Sq., W.C.1.

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FULLY-EQUIPPED OPHTHALMIC AND CONSULTING ROOM available for one or more days per week at a very reasonable inclusive rental, complete with full services.—Address, No. 5965, B.M.A. House, Tavistock Square, W.C.1.

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IN IMPRESSIVE HOUSE, ON MAIN BUS route, borders of Chelsea and Fulham, ground floor CONSULTING ROOM and WAITING ROOM TO LET, exceptionally suitable for high-class Practice, with adjoining residential suite, large drawing room, billiard room, 2 bedrooms, 2 bathrooms, etc., kitchen, c.h.w. Private entrance to large gardens. Additional domestic quarters if required. Long lease. Plate. Rent moderate.—Address, No. 6065, B.M.A. House, Tavistock Square, W.C.1.

HARLEY STREET.—CONSULTING ROOM TO Let (partly or wholly furnished if desired). Unusually well-appointed house. Ground floor. Owner's only other plate. Secretary's room available if desired.—Address, No. 2304, B.M.A. House, Tavistock Square, W.C.1.

HARLEY STREET DISTRICT.—SURGEON wishes to SHARE his exceptionally fine SUITE of two consulting rooms, with X-ray installation. Suit Gynaecologist, Urologist, or General Surgeon. Very moderate rent.—Add., No. 5863, B.M.A. House, Tavistock Sq., W.C.1.

HARLEY STREET.—TO LET, A CONSULTING ROOM, and modern self-contained FLAT with consulting room. Terms moderate. Telephone and door service good.—Address, No. 5359, B.M.A. House, Tavistock Square, W.C.1.

EXCELLENT OPENING FOR DOCTOR.

ISLEWORTH.—MOD. CORNER RESIDENCE. 3 bed, bathroom, 2 rec., kit., hall. Brick garage at side (easily convertible to surgery). 4 principal rooms measure 14 ft. 6 in. by 14 ft. excl., large bays. Unusually lofty and exceedingly well built by builder-occupier.—Fo. 2785, HORNE & SONS, 181, High Street, Hounslow.

IN WELBECK STREET, TO LET, SELF- contained SUITE OF CONSULTING ROOMS, suitable also for residence. Ground floor. Rent £250.—Apply Paddington 3575 or No. 5976, B.M.A. House, Tavistock Square, W.C.1.

PORTMAN SQUARE (NEAR).—USE OF WELL- equipped CONSULTING ROOM (daily). Excellent service. £1 per week inclusive.—Add., No. 6061, B.M.A. House, Tavistock Sq., W.C.1.

QUEEN ANNE STREET.—ONLY £40 PER annum secures handsomely furnished ground floor CONSULTING ROOM, with use of waiting room and all services when required.—Address, No. 5862, B.M.A. House, Tavistock Square, W.C.1.

RUSSELL SQUARE, W.C.1.—OPPORTUNITY for DENTIST share Resident Doctor's CONSULTING ROOMS. 30/- weekly. Or FIRST FLOOR FLAT 40/-. Splendid opening.—Add., No. 5952, B.M.A. House, Tavistock Sq., W.C.1.

SMALL FURNISHED BED-SITTING ROOM, also unfurnished SUITE, central heating. Ideal for Medical Men, overlooking Regent's Park. Excellent service—valetting and cooking. High medical references. Terms moderate, etc.—No. 5384, B.M.A. House, Tavistock Sq., W.C.1.

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FOR SALE.—STUDA CHAIR, PERFECT CON- dition £50; current price £73 7s. D.C. HANOVIA U.V., little used, cost £35; sell £20. STANLEY COX DIATHERMY, cost £45; sell £25. TABLE SOLUX LAMP, £7. FOLDING LIGHT BATH, £4.—Address, No. 5989, B.M.A. House, Tavistock Square, W.C.1.

APPOINTMENTS.—Contd.

THE ROYAL DENTAL HOSPITAL OF LONDON, Leicester Square, W.C.2.

Applications are invited for the post of HONORARY PATHOLOGIST at the above Hospital. Candidates who must have a knowledge of Bacteriology, are requested to send in forty copies of their application and testimonials, stating experience and qualifications, not later than October 24th, to the Secretary-Supt.

THE SHEFFIELD ROYAL HOSPITAL.

Applications are invited for the office of HONORARY ASSISTANT SURGEON. Every candidate must be on the Medical Register and be a Fellow of the Royal College of Surgeons of England.

W. H. BOOTH,
Supt. & Secretary

October 1st, 1934.

BOROUGH OF ILFORD. APPOINTMENT OF ASSISTANT SCHOOL DENTAL SURGEON.

The Ilford Borough Council invites applications from registered Dental Surgeons of either sex holding a degree or diploma in Dental surgery for the above appointment.

The inclusive salary of the office will be at the rate of £450 per annum, rising by annual increments of £25 to a maximum of £500 per annum.

The duties of the officer appointed will be mainly connected with the dental inspection and treatment of school children, but the successful candidate will be required to assist when necessary with the other dental services of the Council.

The person appointed will be required to devote his or her whole time to the duties of the office, to reside within the Borough, to work under the general supervision of the Medical Officer of Health of the Council, and to enter into a contract with the Council for the due performance and fulfilment of the duties and conditions of the appointment.

The appointment will be subject to the Staff Regulations of the Council and the provisions of the Local Government and Other Officers Superannuation Act, 1922, and the successful applicant will be required to pass a medical examination.

Candidates must not be more than 45 years of age.

Applications, which must be made on forms obtainable (with list of duties) from the undersigned, accompanied by copies of three recent testimonials (which will not be returned) and endorsed "Dental Surgeon," must be received at my office at the Town Hall, Ilford, not later than noon on Wednesday, October 10th.

Canvassing members of the Council or Education Committee, directly or indirectly, is prohibited and will disqualify.

By Order,
Town Hall, ADAM PARTINGTON,
Ilford. Town Clerk.
September 26th, 1934.

CITY OF SHEFFIELD. CITY GENERAL HOSPITAL.

JUNIOR ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified Medical Men for the appointment of Junior Assistant Medical Officer at the above Hospital.

The Medical Officer appointed will be required to take duty in the Medical, Surgical, or Maternity Departments as directed by the Medical Superintendent.

The appointment will be for one year only, and the salary offered is £200 per annum, with the usual residential allowances.

Previous hospital experience is desirable.

Applications should be sent to the Medical Superintendent, City General Hospital, Sheffield, 5, accompanied by not more than three testimonials of recent date.

COUNTY BOROUGH OF BRIGHTON. SANATORIUM AND INFECTIOUS DISEASE HOSPITAL.

Applications are invited for the post of MALE JUNIOR RESIDENT MEDICAL OFFICER. Salary £250 per annum, with board and lodging.

The appointment is for a period of six months.

Particulars and form of application can be had from the undersigned.

Latest date for receipt of applications, October 22nd.

Town Hall, J. G. DREW,
Brighton. Acting Town Clerk.
September 29th, 1934.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.

There will be a vacancy on November 1st, for a HOUSE PHYSICIAN (Male) at the above Hospital. The appointment is in the first instance for a period of six months. Salary at the rate of £100 per annum, with board and residence.

Applications, with copies of testimonials, should be forwarded not later than Thursday morning, October 18th, to the Secretary at the above address, from whom further particulars can be obtained.

ROYAL SURREY COUNTY HOSPITAL, GUILDFORD. (184 Beds.)

WANTED; NOVEMBER 1st, HOUSE SURGEON (Male).

Salary £150 per annum, with board, residence, and laundry. Six months' appointment. Applications, stating essential particulars, with copies of not more than three testimonials, to be sent to the Secretary-Superintendent before October 8th.

LANCASHIRE COUNTY COUNCIL. APPOINTMENT OF ASSISTANT TUBERCULOSIS MEDICAL OFFICER FOR HIGH CARLEY SANATORIUM, near ULVERSTON.

Applications are invited for the post of Male Assistant Tuberculosis Medical Officer (unmarried) for the High Carley Sanatorium (118 beds). Salary £450, rising by two annual increments of £25 to £500 per annum, together with the following emoluments: board, furnished apartments, fuel, light, and laundry.

Applicants must be registered Medical Practitioners between 25 and 34 years of age, and the person appointed must devote the whole of his time to the duties as defined by the Council. Candidates must have held House appointments for at least six months in a General Hospital, and have had special experience in the diagnosis and treatment of Tuberculosis.

The possession of a Diploma in Public Health and practical experience in X-ray work will be deemed additional qualifications for the post.

Contributory Superannuation Scheme is in operation with medical examination for entrants.

Forms of application, terms of appointment, and list of duties can be obtained from the undersigned. Closing date October 11th. All letters must be marked on the outside "Assistant Tuberculosis M.O."

County Offices, GEORGE ETHERTON,
Preston. Clerk of the County Council.

SOUTH SHIELDS EDUCATION AUTHORITY. APPOINTMENT OF EAR, NOSE, AND THROAT SURGEON.

Applications are invited from specialists in diseases of the ear, nose, and throat for the part-time post of Ear, Nose, and Throat Surgeon, at a salary of £200 per annum.

Forms of application containing particulars of the duties of the position may be obtained from the Medical Officer of Health, Town Hall, South Shields, and must be returned, duly completed, not later than October 12th, to the Secretary of the Education Committee, Town Hall, South Shields, and endorsed "Appointment of Surgeon."

Canvassing is strictly prohibited.
Town Hall, HAROLD AYREY,
South Shields. Town Clerk.
September 28th, 1934.

THE SHEFFIELD RADIUM CENTRE.

The Committee of the Sheffield Radium Centre are desirous of appointing an ASSISTANT MEDICAL OFFICER in the Deep X-Ray Therapy and Radium Department. Salary £400 to £500 per annum, according to experience. Applications, stating age, qualifications, and experience, together with copies of recent testimonials, to be sent to the undersigned forthwith.

JNO. W. BARNES, F.C.I.S.,
The Sheffield Radium Centre, Secretary.
The Royal Infirmary, Sheffield, 6.
September 24th, 1934.

ROCHDALE INFIRMARY AND DISPENSARY. (110 Beds.)

The Board of Management invites applications from gentlemen for the appointment of JUNIOR HOUSE SURGEON.

The salary attached to the appointment is at the rate of £200 p.a., including board, residence, and laundry.

Applications, stating age, nationality, etc., together with copies of three recent testimonials, to be sent to the Secretary, endorsed "House Surgeon." Conditions of the appointment may be had on application to the Secretary.

Infirmary Office, W. WYNNE,
Rochdale, Lancs. Secretary.

THE BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.9.

The Committee of Management invite applications for the posts of HOUSE PHYSICIAN and HOUSE SURGEON which will become vacant on October 31st next.

Applicants (men) must be fully qualified and registered.

The appointments are for six months, with board, residence, and washing provided.

Salary at the rate of £100 per annum. Applications, with copies of testimonials, stating age, should be forwarded to the Secretary not later than October 18th.

TAUNTON AND SOMERSET HOSPITAL, TAUNTON. (104 Beds.)

HOUSE SURGEON (Male) required November 1st. Three residents on staff. Appointment for three months, with option of re-election. Salary at rate of £100 per annum, with board, residence, and laundry, and retention of certain fees.

Applications, with not more than three recent testimonials, by October 15th to the Secretary, Mr. F. J. J. STACEY.

PORT ELIZABETH HOSPITAL BOARD. MEDICAL SUPERINTENDENT.

Applications are invited for the position of Medical Superintendent to the Provincial Hospital, 400 beds, including 70 beds for infectious Diseases.

Salary £1,000 per annum, rising by annual increments of £40 to £1,200, with quarters, light, fuel, and water.

Appointment is in terms of Cape Provincial Ordinance No. 11 of 1920 and amending Ordinances.

Successful applicant must serve a probationary period of 12 months, but such probationary period will count as service if and when appointment is made permanent.

Applications, stating age, sex, qualifications, previous experience, whether or no bilingual, accompanied by three testimonials, to be forwarded to H. CHAPLIN & Co., 101, Leadenhall St., London, E.C.3, not later than October 16th.

COUNTY MENTAL HOSPITAL, WHITTINGHAM, PRESTON, LANC.

RESIDENT MALE JUNIOR ASSISTANT MEDICAL OFFICER required. Salary £500, rising by annual increments of £25 to £600. No emoluments. £50 per annum is paid in addition if the successful candidate has a Diploma in Psychological Medicine or when he obtains the same.

If single the successful candidate will be required to live in the Hospital and charges at the rate of £150 per annum will be made for board, furnished apartments, and washing. If married, the successful candidate will be required to occupy a house in the Hospital grounds at a rental of £50 per annum. Candidates must be duly registered under the Medical Act. Applications, stating age, which must not exceed 40 years, qualifications, and copies of testimonials should reach the Medical Superintendent not later than October 20th. The appointment is subject to the provisions of the Asylum Officers Superannuation Act, 1909.

STOCKPORT INFIRMARY. (140 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN (Male). Salary £150 per annum, together with board, residence, and laundry.

The Resident Staff consists of a Resident Surgical Officer, two House Surgeons, and a House Physician.

Duties to commence November 1st.

Applications, with copies of three recent testimonials, stating age, nationality, and qualifications, to be sent to the undersigned not later than Thursday, October 11th.

H. G. PRICE, Secretary-Supt.

CHELTEMHAM GENERAL AND EYE HOSPITALS.

HOUSE SURGEON WANTED (Male or Female).

The Board of Management invite applications for the post of House Surgeon, whose chief duties will be in the Eye, Ear, and Throat Department.

Candidates must be fully qualified.

Salary £300 per annum, non-resident.

Applications, with copies of testimonials, to be sent in a sealed envelope, marked "House Surgeon," to the undersigned not later than October 13th.

J. CUMMING SMITH, F.C.I.S.,
General Hospital, Secretary.
Cheltenham. October 1st, 1934.

WEMBLEY HOSPITAL. RESIDENT MEDICAL OFFICER.

Applications are invited for the above post (male, fully qualified), 55 beds of which 13 are private. Salary £150 p.a., with board, residence, and laundry. The appointment is for six months, with eligibility for re-appointment. Successful candidate will be required to commence duty on Wednesday, October 24th.

Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent to the undersigned not later than October 12th.

GEORGE A. PAINES, Secretary.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.

(Bus, Tram, and Rail, Cambridge Heath, L. & N.E. Railway.)

A vacancy for a HOUSE PHYSICIAN (Male) will occur on November 1st. Six months' appointment. Salary at the rate of £100 per annum. Board, residence, and laundry provided.

Applications, with copies of three testimonials, should be sent to the undersigned on or before Friday, October 19th.

GEORGE WATTS, Secretary.

**ROYAL SALOP INFIRMARY,
SHREWSBURY. (150 Beds.)**

CASUALTY OFFICER required. Applications are invited from fully qualified gentlemen, unmarried, and of British nationality. The appointment is for six months, subject to re-appointment at the end of that period.

Salary at the rate of £260 per annum, with board, residence, etc.

Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, to be sent to the undersigned not later than October 12th.

October 1st, 1934. J. W. NOBLE,
Secretary-Supt.

**ROYAL NATIONAL ORTHOPAEDIC
HOSPITAL.
SURGICAL REGISTRARS.**

The Committee invite applications for the appointments of Four Registrars (male) as from November 1st. Candidates who have obtained the F.R.C.S. Eng. will be preferred. Honorarium £105 p.a. The appointments are for twelve months, renewable for a further twelve months on the recommendation of the Medical Board. Applications, with copies of three recent testimonials, should reach the Secretary, 234, Great Portland Street, London, W.1, not later than October 10th.

**ROYAL NATIONAL ORTHOPAEDIC
HOSPITAL.
HONORARY ASSISTANT SURGEON.**

The Committee propose to appoint an Honorary Assistant Surgeon whose duties will include attendance in the Out-patient Department on Thursdays and possibly one other afternoon, and charge of beds. Applicants must be F.R.C.S. England, and applications, with copies of three recent testimonials, should be received by the House Governor, 234, Great Portland Street, W.1, on or before October 16th.

**ROYAL NORTHERN HOSPITAL,
Holloway, N.7.**

Applications are invited for the post of **MEDICAL REGISTRAR**. Candidates will be required to attend at the Hospital from Monday to Friday inclusive. The appointment is for one year, with eligibility for re-election. Honorarium £200 a year, with luncheon and tea provided.

Applications, with copies of testimonials, should be sent by October 12th to the undersigned, from whom forms of application and rules can be obtained.

GILBERT G. PANTER, Secretary.

**CHESTER ROYAL INFIRMARY.
(211 Beds.)**

HOUSE SURGEON (Male) required for November 1st. Salary £150 per annum, with board, lodging, and washing. The appointment is approved for the examination for M.S. (Branch 1) Surgery (London Univ.) and similar higher examinations.

Application list closes October 18th.

Application forms may be obtained from—

W. H. GRACE, M.D., M.R.C.P.,

Hon. Supt. of Resident Medical Staff.

**COVENTRY & WARWICKSHIRE HOSPITAL.
Main Hospital—307 Beds.
Convalescent Hospital—40 Beds.
Seven Resident Medical Officers.**

RESIDENT HOUSE SURGEON (Male) wanted. Salary £125 per annum, with board, laundry, and attendance.

Candidates must be duly qualified and registered.

Applications, stating age and enclosing copies of recent testimonials, should be sent to the undersigned immediately.

(Miss) R. HOOPER, Secretary.

HERTFORD COUNTY HOSPITAL.

Applications are invited for the post of **HONORARY ASSISTANT PHYSICIAN** to the above Hospital.

Candidates should possess a degree in Medicine of a British University or the Membership or Fellowship of the Royal College of Physicians.

Applications (16 copies), together with copies of testimonials, should be made by Monday, October 8th, to the undersigned.

PERCY G. BROOKS, Secretary.

KING'S COLLEGE HOSPITAL.

The Committee of Management invite applications for the post of **JUNIOR SURGEON**. Applications, with copies of three testimonials, should be sent before October 12th, to the House Governor, King's College Hospital, Denmark Hill, S.E.5, from whom particulars of the duties may be obtained.

**WESTERN INFIRMARY OF GLASGOW.
(INCORPORATED.)**

The Managers of the Western Infirmary invite applications for a **FULL-TIME ASSISTANT RADIOLOGIST**.

The salary is £400 per annum, and candidates are requested to lodge with the Subscriber, on or before October 17th, fifteen applications, with copies of at least two testimonials with each application. Canvassing not permitted.

J. MATHESON JOHNSTON, C.A.,
87, Union St., Secretary & Treasurer.
Glasgow, September 28th, 1934.

**THE BUCHANAN HOSPITAL,
ST. LEONARDS-ON-SEA. (103 Beds.)**

Applications are invited from British subjects for the post of **JUNIOR HOUSE SURGEON (Female)**, commencing as soon as possible, for a period of six months, with option of a further six months as Senior House Surgeon. Salary at rate of £125 per annum.

Applications, stating age, qualifications, and experience, and accompanied by copies of at least three testimonials, should be sent to the undersigned on or before October 11th.

FRANK HART, Secretary.

**THE DEWSBURY AND DISTRICT GENERAL
INFIRMARY.**

Applications are invited for the post of **HOUSE SURGEON (Male)**. Salary £150 per annum, with board, residence, and laundry.

The Hospital is a new one of 100 beds, and has the usual Special Departments, with Visiting Consulting Specialists in attendance.

Applications, stating age and hospital experience, together with copies of three recent testimonials, to be sent to the undersigned before October 24th.

FRED SMITH, Secretary-Supt.

**ADELAIDE CHILDREN'S HOSPITAL,
ADELAIDE, SOUTH AUSTRALIA.**

THREE RESIDENT MEDICAL OFFICERS required to commence duties January 1st, 1935. Salary £100 per annum (Australian currency), board, residence, and laundry. Appointment for twelve months. Passage provided both ways. Applications, with copies of testimonials, stating age and qualifications, to be sent not later than October 15th, 1934, to Address, No. 5855, E.M.A. House, Tavistock Square, W.C.1, from whom further particulars can be obtained.

**ALBERT DOCK HOSPITAL,
Connaught Road, E.16.
(Seamen's Hospital Society.)**

RESIDENT MEDICAL OFFICER required for six months from November 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and laundry. Candidates must be male. Applications, with copies of three testimonials, to be sent in by October 9th to the undersigned.

Seamen's Hospital, R. E. V. BAX,
Greenwich, S.E.10. Secretary.

ST. MARY'S HOSPITALS, MANCHESTER.

RESIDENT OBSTETRIC OFFICER for the WHITWORTH STREET WEST HOSPITAL (Maternity) for a period of twelve months from November 1st next. Salary £175 per annum, with board and residence. Membership of the College of Obstetricians and Gynaecologists would be an advantage.

Applications, with copies of three testimonials, to be sent to the undersigned on or before the 15th instant.

R. RATCLIFFE, Secretary.

ST. THOMAS'S HOSPITAL.

VACANCY.

Applications are invited for the appointment of an **ASSOCIATE PLASTIC SURGEON** to the Hospital. Candidates must be Fellows of the Royal College of Surgeons of England.

Applications, with testimonials and full details of academic career, must be sent to the Clerk to the Governors on or before Oct. 20th.

ST. THOMAS'S HOSPITAL.

VACANCY.

The appointment of a **RESIDENT ANAESTHETIST** for one year, renewable for a further year. Salary £200 per annum.

Applications, with full details of academic career and testimonials, to be forwarded to the Clerk to the Governors on or before Oct. 22nd.

ST. JOHN'S HOSPITAL, LEWISHAM, S.E.13.

Applications are invited for the resident appointments of **HOUSE PHYSICIAN AND CASUALTY OFFICER (Male)**, vacant on November 1st. Tenable for six months. Remuneration £100 p.a. Applications, with copies of testimonials, should reach the undersigned by Friday, October 12th.

J. C. GILBERT, Secretary-Supt.

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WANTED BY M.D., F.R.C.S., OF CONSIDERABLE experience, a good-class PRACTICE or PARTNERSHIP, with scope for Surgery, in S. or S.W. England.—No. 4113.

**WANTED.—PRACTICE OR GOOD PARTNER-
SHIP.** Provincial Town in South Midlands or London Suburb. About £2,500. Applicant is 42, married, and has £4,000 cash ready.—No. 4383.

FOR DISPOSAL.

LIVERPOOL.—RESIDENTIAL SUBURB.—OLD estab. Now £250 p.a. Ample scope in hands of active man. Panel 600. Fees 3/6 to 8/6. Good house and garden to rent.—No. 9370.

MIDLAND TOWN.—PARTNERSHIP AVER-aging £1,150, rapidly increasing, great scope. One-third share for sale at £800.—No. 9368.

LONDON, W.—AVERAGE £900 P.A.; HALF Ophthalmic. Panel 500. Appts. £60. Fees 10/6 up. Ophth. 21/- up. Convenient house to rent. Premium £1,800 or near.—No. 9365.

NEAR LIVERPOOL.—WOMAN'S PRACTICE. Would suit man. £1,000 p.a. No panel. Visiting fees 3/5 up, surg. 2/6 up. Midy. £2 2s. up. House on lease at £52 p.a., 5 bed., etc. Premium 1 year's purchase.—No. 9369.

LONDON SUBURB, W.—OLD ESTAB. PRAC- TICE, now £400 p.a., owing to age of Vendor. Panel 500. Fees 5/- up. Good family house, 3 recep., 6 bed., etc., on lease at £120. Premium £700 or near offer.—No. 9356.

LONDON, W.2.—ABOUT £900 P.A., INCL. appointments worth £130. No dispensing. Panel just started, ample scope. Fees 5/- to 21/-. Suitable accommodation on inclusive rent. Premium £1,400 or offer.—No. 9362.

LANCS.—ABOUT £1,000 P.A., WITH PANEL about 1,000. Visits 4/- up. Mid. £2 2s. up. Well-situated house, 2 recep., 4 bed., surgery, etc., garage, and garden. Rent £75 p.a. Premium 1½ years' purchase or near.—No. 9350.

LONDON, E.5.—NUCLEUS DOING £380 P.A. Panel 130, ample scope. Shop-fronted surgery with flat over £80 p.a. Premium £350 for quick sale.—No. 9354.

DURHAM.—IN FLOURISHING NEIGHBOUR- hood.—Old-established industrial, and panel of about 930. Average £1,200. Prem. 1½ yrs' purchase. Freehold house £850.—No. 9347.

SURREY.—NUCLEUS, LAST YEAR'S RE- cepts £426. Panel 170, rising neighbour- hood. Ample scope. Premium £400.—No. 9352.

LONDON SUBURB, S.W.—ABOUT £400 P.A., increasing. Estab. but 3½ years. Panel not encouraged, but ample scope. Visits 5/- to 21/-. Prem. £200. House, 2 recep., 5 bed., to rent.—No. 9349.

WEST-OF-ENGLAND.—CATHEDRAL CITY. Nearly £1,100 p.a. and ample scope. Panel refused but scope. Clubs about £250 p.a. Premium £2,000. Good family house and large garden.—No. 9327.

N. WALES TOWN.—OVER £2,100 P.A. No panel. Several appointments. Fees 5/- to 21/-. Prem. 2 yrs' purchase. Good freehold house in own grounds with cottage.—No. 9348.

SOUTH WALES.—TOWN PRACTICE. MINING and agricultural. Average £1,840 p.a. Panel 1,350. Several appointments. 13-roomed house, 4 bedrooms, etc. Separate garage and garden.—No. 9339.

ASSISTANTS WANTED.—MIDLAND TOWN. Eng. or Scots, about 30, with some exper. £300, all found to commence. LONDON, E. £300 indoor. LONDON, N. £300 indoor, plus 50% confinements. Eng. or Scot. S. COAST. £250, all found, young, single, and cyclist. LEICESTER. British, young, and single. £300 indoor. Practice chiefly panel and working. DEVONSHIRE. Country, near Town. English, Lond. trained preferred. £350 to £400, plus car allowance. PEMBROKESHIRE COAST. £350 p.a. and furnished rooms. PEMBROKE- SHIRE. £300 indoor.

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BUCKS.—PARTNERSHIP after short Preliminary Assistantship in old-established mixed Country Practice. Receipts £2,400 p.a. Panel 1,100. Two appointments. Suitable for man used to better-class Practice, aged 25-35. Premium for one third share £1,500.

LONDON, S.E.—Middle-class Suburban PRACTICE. Non-basement terrace house to be rented at £60 p.a. on lease. Panel nearly 350. One appointment. Fees 2/6 up. Premium £1,000 or near offer.

SUSSEX.—PARTNERSHIP in well-established G.P. situated in popular seaside resort. Excellent house in good position. Receipts £1,400 p.a. Panel 650. Appointments. Premium for two-thirds share (approx. £900) two years' purchase.

LONDON.—Well-established middle and better-class G.P. Excellent house, with good garden, may be rented or purchased freehold. Receipts approximately £2,100 p.a. Panel 1,160. Several appointments. Premium £4,500, to include certain equipment.

LONDON, E.5.—Middle and working-class G.P. situated in thickly-populated residential locality. Receipts £380 p.a. Panel 130. Scope for all-round increase. Premium £350 for quick sale.

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- 22 CAPE PROVINCE.—WELL-ESTABLISHED PRACTICE in small Town in one of the foremost Farming Districts (altitude over 5,300 ft.). Cash receipts year ending June 30, 1934, £1,100, including appointment worth £200. Visiting fees 7/6 in town by day, £1 1s. by night. Country at the rate of 4/- by day, 6/- by night. House contains spacious lounge, 2 bedrooms, bath-room, surgery, etc. Garden and good garage. Price about £1,475. Reasonable premium.
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- 25 LONDON, E.S.—WELL-ESTABLISHED PRACTICE £380 P.A. Panel 130. Visits 3/6, 5/- (night 10/6). Shop-fronted surgery and flat to let. Premium £350.
- 26 BIRMINGHAM.—OLD-ESTABLISHED PRACTICE AVERAGING £650 p.a. in suburban district. Panel about 800. Visits 2/6 to 7/6, medicine not included. Substantially built house (7 bed and dressing rooms) occupying prominent corner position with garage and small garden for sale. Considerable scope as district is growing. Premium £1,300.
- 27 LONDON, W.—PARTNERSHIP IN WELL-ESTABLISHED PRACTICE between £1,100—£1,200 p.a. in residential area easy reach of West End. Incoming Partner should be aged 30-35. Great scope for panel work. One-half share (£500 p.a. guaranteed) would be sold for £1,000.
- 28 SURREY.—INCREASING PRACTICE IN DEVELOPING RESIDENTIAL DISTRICT. Income about £530 p.a., including small panel returning £80 p.a. Visits 5/- to 7/6. Very good freehold residence for sale. Great scope for increase. Premium £750.
- 29 SURREY.—PARTNERSHIP IN SOUND OLD-ESTABLISHED good mixed-class Practice of £2,600 p.a. within 10 miles of London. Several appointments and Panel 325. Visits 5/- upwards. Few 3/6. Very little midwifery. Good corner house (5 bedrooms) with nice garden for sale. Scope for considerable increase. Premium one-half share 2 years' purchase.
- 30 LONDON, S.E.—WELL-ESTABLISHED PRACTICE IN GROWING residential suburban district. Receipts past twelve months £975. Panel over 560. Visits 4/-, 7/6, and upwards. Excellent detached house (4 bedrooms) with garage and half acre of garden to rent. Scope for increase. Premium £1,700 or near offer.
- 31 S.W. OF ENGLAND.—PRACTICE CARRIED ON BY MEDICAL woman in coast town. Receipts average about £350 p.a. including appointments and small panel. Visiting fees 5/- to 7/-. Suitable house available. Premium £350.
- 32 COUNTY TOWN ABOUT 130 MILES FROM LONDON.—VERY old-established middle and upper-class PRACTICE averaging nearly £1,200 p.a. Panel 120. Visiting fees 7/6 to 15/6. Ten-roomed house in good residential part with garage and garden for sale. Scope. Premium £1,750.
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- 35 MEDITERRANEAN TOWN.—OLD-ESTABLISHED GOOD-CLASS non-dispensing PRACTICE averaging over £2,000 p.a. Fees chiefly £1 1s. Charming situated Flat for sale. Premium—Practice—one year's purchase.
- 36 LONDON, S.E.—PRACTICE ABOUT £350 P.A. WITHIN 5 miles of Charing Cross. Panel 320. House contains waiting room, surgery, dispensary, 2 bedrooms, etc., rent £63 p.a. Premium £500, or offer.
- 37 LONDON, E.—SMALL PRACTICE IN POPULOUS AREA. CASH receipts past year £425. Panel 351. Accommodation comprises 4 rooms, kitchen, bathroom, and is rented on lease. Premium 1½ years' purchase.
- 38 BOURNEMOUTH.—DETACHED CORNER RESIDENCE BUILT by Medical Man and from which general practice has been carried on. The accommodation comprises 2 reception rooms, waiting and consulting rooms, 4 bedrooms, etc. Garage and garden. The freehold would be sold for £1,750. Active building is going on in the district, and there is a good opening.
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- 40 CORNISH COAST.—SMALL PRACTICE IN DELIGHTFUL SEASIDE town worth about £250. No dispensing or panel. House, 3 bedrooms, electric light, gas, and walled-in garden to rent. Premium £250.
- 41 ESSEX.—NUCLEUS OF PRACTICE WORTH ABOUT £175 p.a., capable of good increase, in populous district. Panel 257. House (4 bedrooms) in main thoroughfare, with garden, for sale or rent. District rapidly growing. Premium £200, to include drugs and part of Surgery furniture.
- 42 HOME COUNTY.—PARTNERSHIP IN SOUND OLD-ESTABLISHED, about £6,500 p.a. in beautifully situated first-rate Country Town. House available which might be obtained on lease. Considerable scope for increase. Incoming Partner should be aged about 30, preferably married, and a physician with some knowledge of Pathology. Commencing share of (approximately) £1,170 p.a. would be sold at two years' purchase.
- 43 HERTS.—SMALL PRACTICE IN GROWING COUNTRY District. Income little over £200 p.a. with small panel. Nice freehold corner house (4 bedrooms), garden back and front, for sale. Very good prospects for energetic man. Premium £330.
- 44 W. OF ENGLAND.—OLD-ESTABLISHED PRACTICE IN County Town. Receipts average over £1,050 p.a., including appointment and clubs worth about £250 p.a. No panel, but Practice might be considerably increased in this direction. Visiting fees 5/- to 10/6 and £1 1s. Pleasantly situated corner residence (8 bedrooms) with garage and fair-sized garden for sale. Very good educational facilities. Building progressing. Premium two years' purchase.
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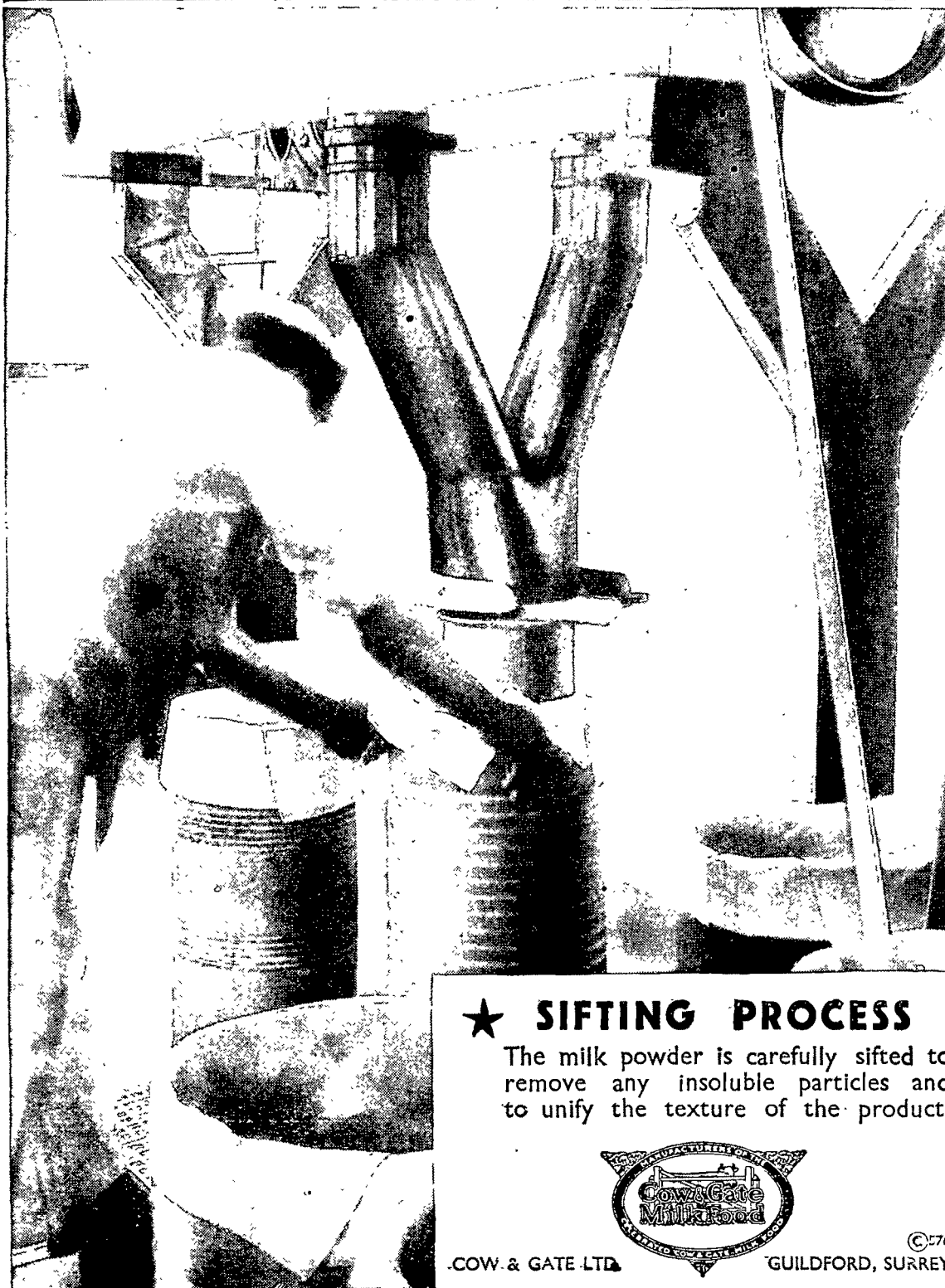
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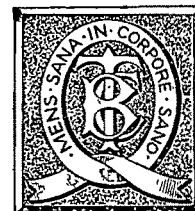
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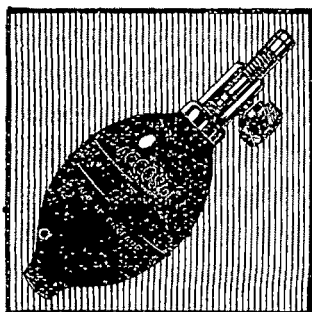
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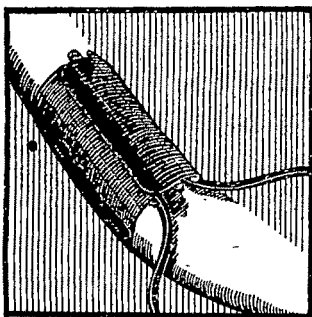
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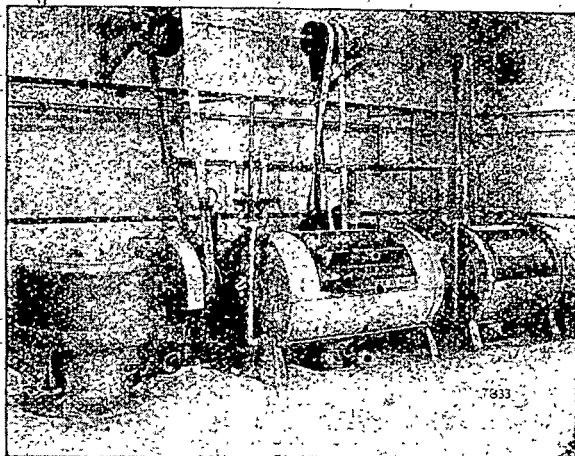
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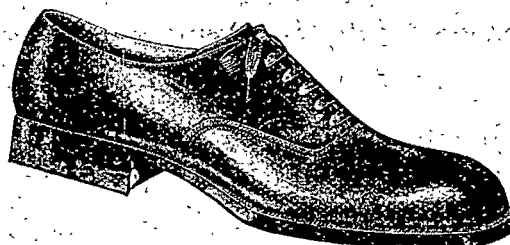
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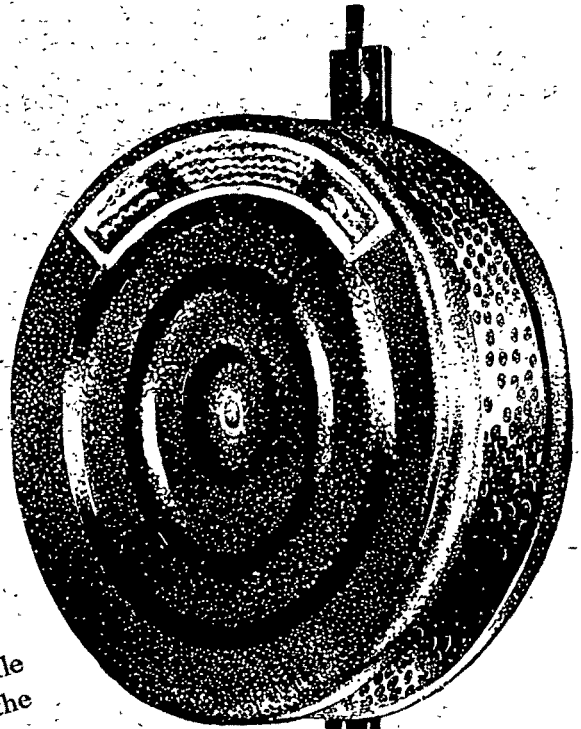
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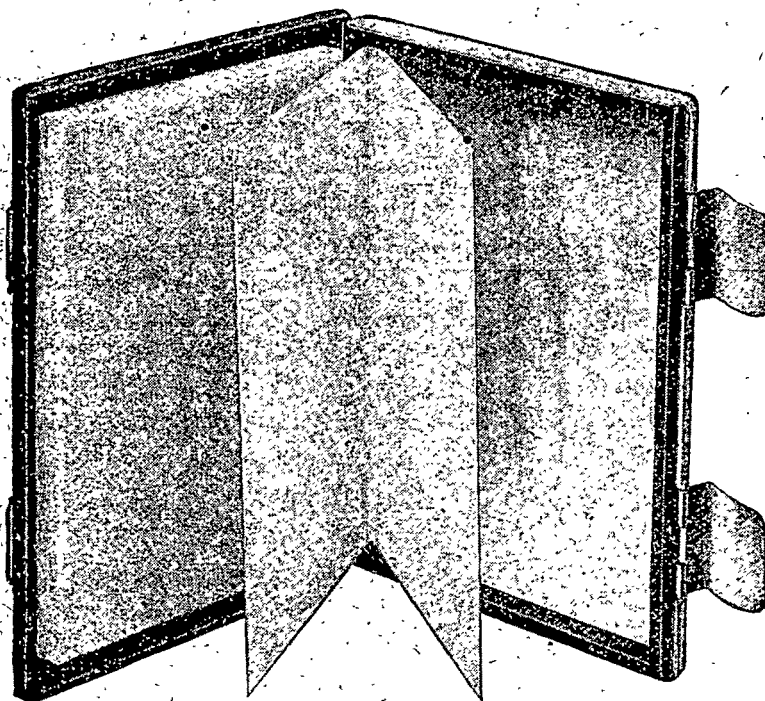


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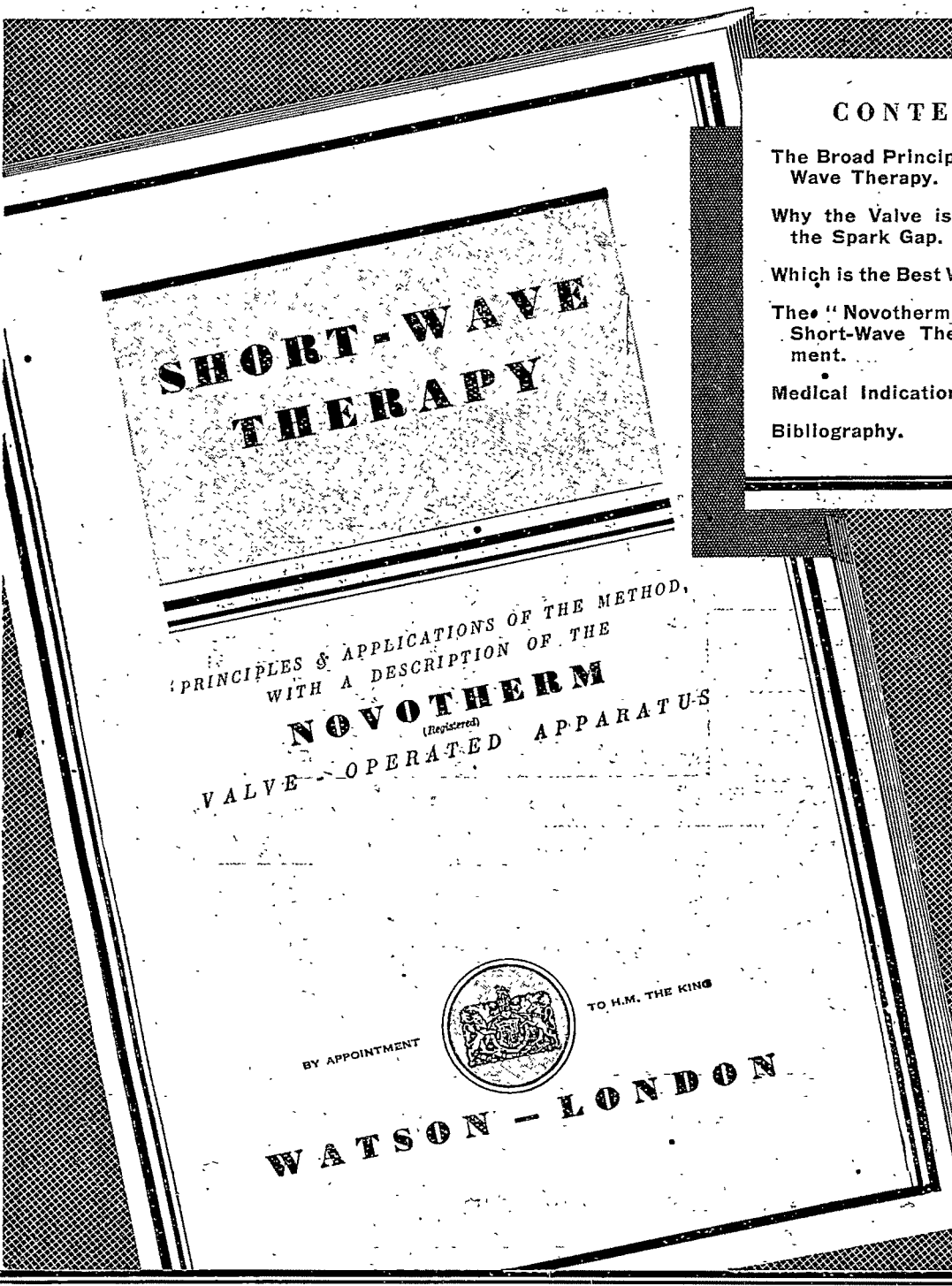
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 SUNIC HOUSE, PARKER STREET, KINGSWAY, LONDON, W.C.2.

★ Please send a Copy of your brochure "SHORT-WAVE THERAPY" describing the "NOVOTHERM" range of British-made equipment.

Name

Address

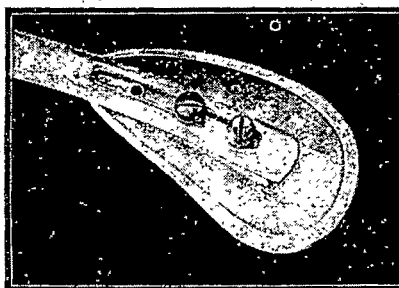
SALT AIR SURGICAL SERVICE

Guarantee

"We guarantee to alter exchange or accept the return of any appliance without cost ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

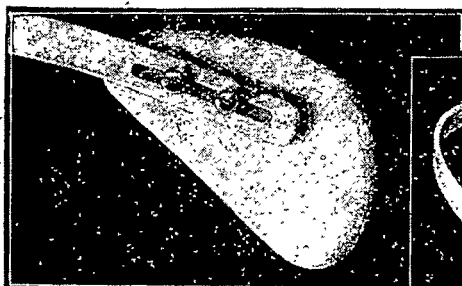
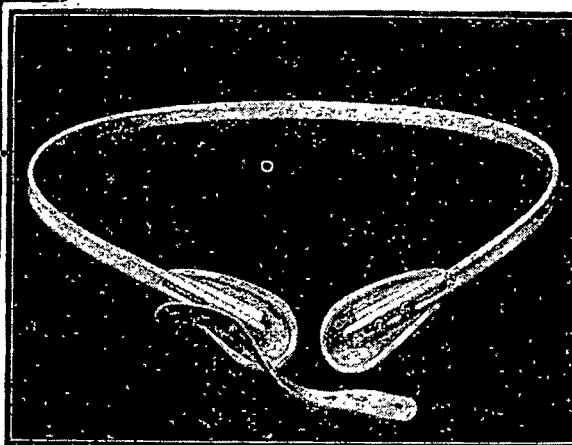
Salt and Son Ltd.

SALT'S Celluloid TRUSSES



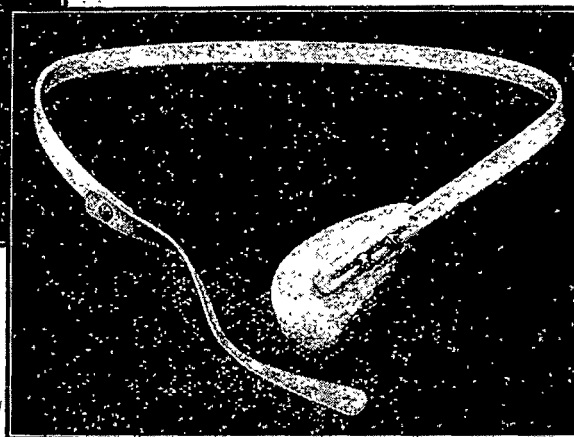
**Double Truss
for Inguinal Hernia**

*Note Sliding Head for
correct adjustment of Pad.*

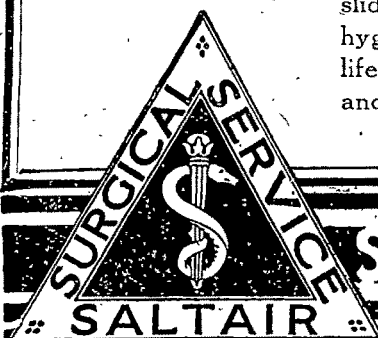


**For Advanced Cases
of Inguinal Hernia**

*Note Sliding Head for
correct adjustment of Pad.*



One of the many specialities of SALT & SON Ltd. is a Truss with a hand-hammered spring, covered with celluloid and with celluloid pad. This Truss is provided with a sliding head, allowing for minute adjustment. It is the most hygienic and lightest Truss made, and has more than twice the life of a leather-covered Truss. Send for measurement forms and particulars.



SALT & SON LTD BIRMINGHAM 2

DO DOCTORS READ PRESS ADVERTISEMENTS?

A great many advertisers would give a good deal to know the correct answer to this question. We are among the few who are unconcerned. We know from our correspondence that women doctors *do* read our advertisements, and hope that men, whatever their calling, will never be conscious of them at all. For obvious reasons our press advertisements appear *only* in such papers and magazines as are bought and read *only* by women.

That is why from time to time we take space here—in a serious medical journal—to discuss a product sometimes not regarded as directly medical... i.e. modern Sanitary Towels. We are anxious to keep your professional interest in the campaign we wage against unhygienic habits of menstrual hygiene.

It must have occurred to you how much valuable educative work can be done—and is regularly being done—in the advertisement pages of the popular press. During the last five years our modest reader advertisements—prepared under

the supervision of a woman doctor—have been instructing a vast section of the female population. We have given them, simple point by simple point, such intimate knowledge as they *ought* to possess (but rarely do) of the close connection existing between menstrual hygiene and feminine health. *Directly* due to these advertisements at least half-a-million women (our estimate is purposely a conservative one) have been persuaded to substitute enlightened and hygienic habits for ignorant and unsanitary ones during their menstrual periods—with a natural gain to their happiness and well being.

The work done by these advertisements is confirmed and strengthened by two little books—"Plain Words to Women" (for adult women) and "Growing Up" (for little girls)—which we issue to enquirers on request. These books are coming to be regarded by many doctors, teachers and social workers as textbooks, in their respective subjects, for the guidance and instruction of the masses; we gladly supply copies, free of charge, to all who are interested.

*This announcement is inserted by
the makers of LILIA The British Soluble Sanitary Towel*

They invite comment and enquiry from the medical profession—as they have done before, with most helpful results. And they would remind doctors that they are always glad to send samples of Lilia Towels and Lilia Literature to any interested medical man or woman at home or abroad

Sashena Ltd

LILIA WORKS, BARTHOLOMEW ROAD, LONDON, N.W.5

(An associate company of the makers of Elastoplast)

Belts by Roussel, though artistic, are designed with anatomical accuracy for post-operation and maternity wear.



Realising the vital importance of anatomical accuracy in the designing of belts for post-operation and maternity wear, M. Roussel, after more than twenty-five years of study and experiments with many designs suggested by anatomical experts, evolved the principles he now uses.

Many prominent medical men now habitually prescribe a belt designed by M. Roussel for such of their patients as require abdominal support or control.

All belts designed by M. Roussel are woven in strong, light, porous, elastic tricot: and are especially made to give adequate support without unnatural compression.

Since M. Roussel undertakes a six months' guarantee of wear and adjustment service to ensure perfect fitting, belts designed by Roussel are only obtainable at the Roussel Salons listed below.

Prices { Hip Belts from 30/-
Long-Belts from 4 Gns.

A reduction of 2/- in the £ is made on purchases for personal use by members of the Medical Profession. Write to Dept. M.E.

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On sale only at
J. Roussel
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Southalls are now
able to offer —

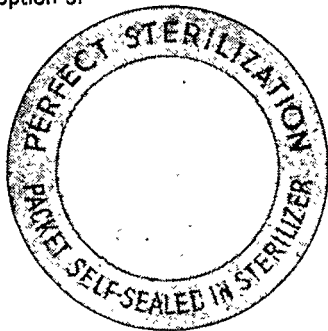
PERFECT STERILIZATION OF PACKED SURGICAL DRESSINGS

Perfect Sterilization

It has been the common practice to sterilize totally enclosed and sealed packets of Surgical Dressings by dry heat, but recently it has been discovered that the only efficient method of sterilization is by moist heat at a temperature of about 125° C.

The usual method of ensuring that the saturated moist heat, which is essential, may penetrate the Dressing when placed in the autoclave, has been to leave the ends open, then the packet with open ends is removed to the workroom to be closed and sealed, thus exposing it after sterilization to contamination by the air and by the hands.

The adoption of —



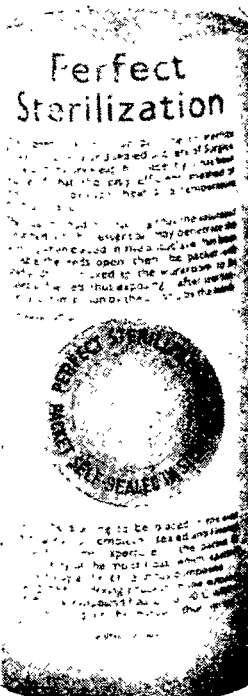
enables the dressing to be placed in the autoclave in a packet completely sealed and finished, except for a small aperture in the packet for the in-taking of the moist heat, which aperture is covered by a film of resinous compound. During the final drying process in the autoclave the resinous compound heated to 130°C. adheres to the wrapping of the packet, thus sealing it automatically.

Pat. 413839

The medical practitioner can now obtain, without extra charge, gauze, maternity pads, &c., entirely free from pathogenic organisms.

The illustration of the self-sealing wrapper shown here explains briefly this revolutionary self-sealing device, but members of the medical profession are invited to write for a sample package.

Southall Bros. & Barclay Ltd.
CHARFORD MILLS, BIRMINGHAM



Verpine
REGD. TRADE MARK

NON-POISONOUS



ANTISEPTIC AND DISINFECTANT

Verpine is a clear sherry-coloured fluid which mixes easily with water in any proportion and has a pleasant odour. It is a powerful germicide; but has negligible action on human tissue. It is being used with success as a general antiseptic and disinfectant, and in particular is recommended for local application, for vaginal douching, and as a mouth wash and throat gargle.

Enquiries from the Medical Profession are invited.

THE VERPINE COMPANY,
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Indigestion is often relieved
by a change from ordinary astringent tea
to the mild & delicious

"Ty-phoo"
TEA

Many doctors write us in confirmation.

Read what four of them say:-

"A great many of my patients are now drinking 'Ty-phoo' tea and I have much pleasure in endorsing all you claim for it. There is no doubt it is the only tea for dyspeptics."

"We now use 'Ty-phoo' tea exclusively in my house. I find it most useful in my practice as I find many patients can take it readily when other teas do not agree."

"I cannot recall ever tasting such a pleasant tea as 'Ty-phoo.' It produces a stimulating effect and is totally devoid of gastric irritation."

"I find 'Ty-phoo' tea has all the good points you claim for it, especially is it good for the digestion."

*Thousands of Medical Men & Women are prescribing "Ty-phoo" regularly.
Write for a FREE Sample: "Ty-phoo" Tea Ltd Dept B.M.J. Birmingham 5.*

“Pentide”

Trade

Mark

Sodium Pentose Nucleotides

For the treatment of Agranulocytosis

During recent years considerable attention has been given to agranulocytosis, granulopenia, or malignant neutropenia—absence or diminution in number of granular (polymorphonuclear) leucocytes. Two types of this condition are known, namely, true agranulocytic angina, of unknown ætiology, and malignant neutropenia secondary to an obvious acute infection. True agranulocytic angina is usually acute, characterized by ulceration in the mouth and pharynx, and fatal. Secondary granulopenia includes cases resulting from typhoid fever, some exanthemata, local infection, poisoning by benzene or arsphenamine, irradiation by x-rays or radium, aplastic anæmia, splenic diseases, etc.

Pentose nucleotides, intravenously and intramuscularly, have proved very successful in agranulocytosis. For the treatment of this condition and other disorders in which increased production of polymorphonuclear leucocytes is desirable, Allen & Hanburys Ltd. have prepared Sodium Pentose Nucleotides which they issue under the name “Pentide.”

Particulars and literature on application

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Telephone:
Bishopsgate 3201 (12 lines)

London, E.2

Telegraphic Address:
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The most concentrated LIVER EXTRACT

A 4-oz. bottle contains the full haemopoietic
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Price 12/6 a bottle

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"A digestive agent of extraordinary power."

Sir William Roberts, M.D., F.R.S.

Liquor Pepticus Benger is a concentrated and highly active fluid pepsin in acid solution which acts particularly upon meat, eggs and other proteid foods.

The best results from the use of Liquor Pepticus are obtained when it is prescribed alone. Should the prescriber wish to combine medicaments of a tonic nature, it will be recollected that those which are free from astringency and alkalinity should be selected. In 4, 8 and 16-oz. bottles. Prices: 3/6, 6/6 and 12/6.

BENGER'S FOOD, LTD., Otter Works, MANCHESTER.

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M.276a

SYDNEY (N.S.W.): 350 George Street.

CAPETOWN (S.A.): P.O. Box 722.



TO A SURGEON

who found that acidosis is a too frequent surgical complication

THE idea is not new to you. Surgical shock and the effect of the anæsthetic have made an emergency exist more than once where none was expected. ACIDOSIS was the cause, and you resolved that before the operation and after alkalization should be the routine.

So perhaps you tried sodium bicarbonate or glucose and nearly lost faith in a "theory".

Let ALKA-ZANE renew your confidence. It will keep the alkali reserve ready for the added strain because Alka-Zane contains the salts of which the reserve is composed: sodium, potassium, calcium and magnesium, in the form of carbonates, phosphates and citrates. No lactates, tartrates or sulphates, and no sodium chloride—only the salts that really "serve" and guard against acidosis.

Let us send you a trial supply. There is no obligation or cost.

ALKA-ZANE for Acidosis



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Tryparsamide is a pentavalent arsenical preparation for intravenous use in the treatment of Neurosyphilis.

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MAY & BAKER LTD

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lowering of the
blood pressure.

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POLY HORMONIC AND VEGETABLE HYPOTENSOR

Mistletoe
Liver
Pancreas and lung

4 Tablets per day.

Horlick's for Morning Sickness

A DOCTOR WRITES:

"My patients, while suffering from sickness during pregnancy, find Horlick's of the greatest help to them."

The experience of this physician is typical. The distress due to morning sickness can be prevented or relieved by including Horlick's Malted Milk in the diet of the expectant mother. Horlick's is appetising and easily digested, and physiological tests show that it possesses a high anti-ketogenic value. It also assists in the formation of regular bowel habits.

Horlick's is equally delicious hot or cold, and forms an excellent "night-cap."

HORLICK'S MALTED MILK CO. LTD., SLOUGH, BUCKS.

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Brand of Hexylresorcinol

For the treatment of
Pyelitis Cystitis
Urethritis and other
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SOLE SELLING AGENTS—THE BRITISH DRUG HOUSES LIMITED and SHARP & DOHME LIMITED LONDON
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TRADE MARK GRAMM
SYNTHETIC EPHEDRINE

in
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SMALL DOSES**

Average dose 12-25 drops daily

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**CONTAINS
OVARIAL**

"Proved to be reliable, not only in functional disorders of the ovary, but also in radical genital maladies."

—vide Clinical Reports.

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Indications—Amenorrhoea, Dysmenorrhoea, Climacteric Disorders, Disturbances arising from Endocrine Deficiency.

Dosage— Fixed individually (within limits).

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THE use of purgative agents before operation is now disfavoured by many surgeons who prefer the patient to have a short preparatory course of lubrication therapy. "Cristolax" is advocated for its lubricant and gentle laxative effect as well as its digestive and nutritive value. Clinical experience has definitely proved its worth.

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FOR ROUTINE ADMINISTRATION
IN THOSE VAGUE BORDERLINE CONDITIONS
OF ILL-HEALTH IN WHICH THE
VITAMIN DEFICIENCY IS
GENERAL BUT
NOT ACUTE



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NATURAL MINERAL WATER.

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The VICHY WATERS, being almost devoid of Sulphates, are most agreeable to the taste, and are daily relied upon by Physicians the world over in the treatment of Gout and Rheumatism and for Affections of the Liver, etc.

NATURAL

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B₁: 400

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BEMAX

Vitamin B₁—over 400 International Standard Units per ounce.

Vitamin B₂—280 Sherman-Bourquin Units per ounce (preliminary assay).

Vitamin E—the richest known source.

Phosphorus—330 mg. per ounce.

Magnesium—99 mg. per ounce.

Iron—3 mg. per ounce.

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Fibre—less than 1.5%

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While there is as yet no international standard for the measurement of Vitamin E potency, workers in this field of research are agreed that Oil of Wheat Germ is the richest source so far discovered. Its high activity is demonstrated by the extremely small doses required to cure induced dietary sterility in animals.

Human sterility and habitual miscarriages when not traceable to pathological conditions or anatomical abnormalities are sometimes due to a dietary deficiency of Vitamin E to which some patients appear to be peculiarly sensitive. For such patients Fertilol is indicated. *Its Vitamin E content does not depreciate on keeping.* Prolonged administration causes no ill effect.

The dose recommended for human use is three 5 minim capsules daily for two or three months.

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Iron 'Jelloids' are an elegant and reliable means of administering the proto-carbonate of iron. The preparation has none of the disadvantages of Pil. Bland. Oxidation does not occur because of the soluble film which covers the tablet. The iron content remains fresh and unoxidized indefinitely, and injury to the teeth is avoided.

The 'Jelloids' are highly effective in the treatment of achlorhydric anæmia and indeed in all the simple anæmias in which massive iron therapy is indicated.

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"Hormonoxoid," "Pitoxylin," Adrenalin, Thyroid, Parathyroid, Ovarian, etc. Supplies of all gland preparations—alone or in combination—in tablet, capsule, or extract form.

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Natural uncoagulated juice of liver; made by low temperature process. For Pernicious and Secondary Anaemias.

Vitamin "A"

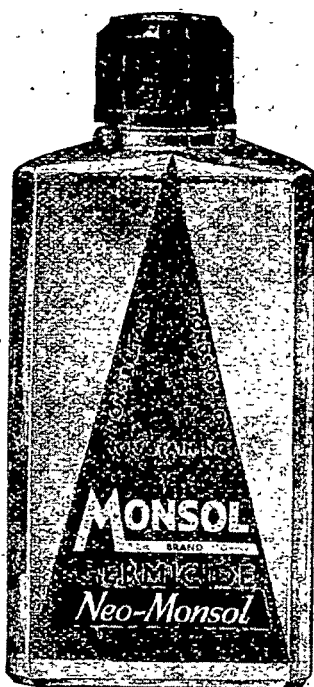
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packed in collapsible tubes fulfils a long-felt want of the Medical and Nursing Professions.

It is equally suitable for rapid sterilisation of skin, hands, instruments, catheters, etc.—or for making germicidal dilutions for general antiseptic purposes.

The full range of MONSOL and NEO-MONSOL products will be displayed on Stand No. 92 at the London Medical Exhibition, October 15th to October 19th.

MONSOL LTD., Vincent House, Vincent Sq., London, S.W.1.

● MEN LIKE GODS

Perhaps some day there will be a known and certain cure for every sickness of the body. Perhaps there will be an end entirely to bodily ills.

For the present—we are in some little degree advanced from a state of primal ignorance. We can say that we know some things with fair certainty, and that we are gaining new knowledge every day. And we can say something even more important—we are not forgetting what we know already!

Yes, those old specifics—sun and sleep and iodine and epsom salts—are as dependable, and no more dispensable than they ever were. And not without reason does Sphagnol Peat Ointment hold a high and honoured place in this company.

Skin sufferers have long known Sphagnol. They have found it very soothing and cooling for sore places, very sure and swift in healing. We know—because they write to tell us. The secret of Sphagnol is the healing, antiseptic distillate of peat which is blended into it. It is probably not untrue to say that Sphagnol ointment is unique and will remain so.

We should like you to keep a supply of Sphagnol on hand, to use it against outbreaks of eczema and psoriasis, dermatitis and other skin diseases, also small cuts, scratches, and to note the results. We believe they will somewhat surprise you. Test Sphagnol personally. On receipt of a postcard we shall be pleased to send you a sufficient supply.

Sphagnol

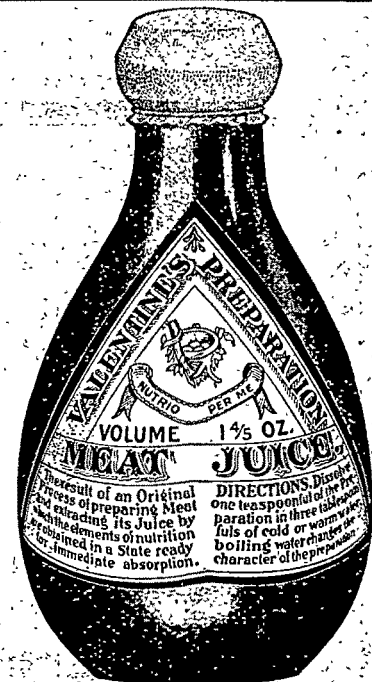
Peat Products (Sphagnol) Ltd., Dept. B 138, 21, Bush Lane, London, E.C.4.

Valentine's Meat-Juice

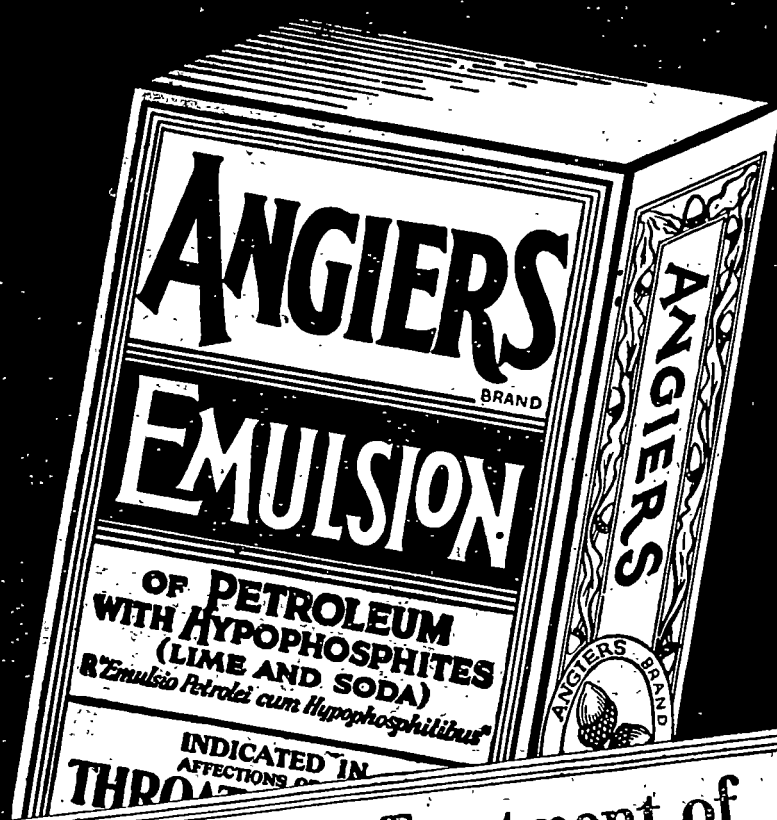
FOR Quieting the Irritable Stomach and Aiding the Tired Digestive Organs, for Refreshing the Fever Patient and for Restoring and Strengthening when Other Food Fails, Valentine's Meat-Juice is used in Hospitals and prescribed by many leading Physicians and Surgeons.

Physicians are invited to send for Clinical Reports from Hospitals and General Practitioners in all parts of the world.

For sale by European and American Chemists and Druggists.



Valentine's Meat-Juice Co., Richmond, Vir., U.S.A.



Petroleum in the Treatment of Intestinal Disorders.

Purified Petroleum in one form or another is becoming more and more widely employed in the treatment of intestinal disorders associated with toxæmia. To obtain the best results, the petroleum should be not only non-irritating and free from all impurities, but it should preferably be in the form of an Emulsion. In this form the minutely divided petroleum globules mingle freely with the intestinal contents, and are more widely and evenly distributed throughout the entire intestinal tract. Maximum lubrication is thus assured and the characteristic action of the oil obtained with greater uniformity.

Angiers Brand Emulsion is made with a specially purified petroleum of just the right degree of viscosity. It is a perfect Emulsion of cream-like

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"After long experience of many forms of paraffin, and petroleum, both in the character of emulsions and otherwise, I have found none so satisfactory to the patient as 'Angiers'."

—M.D., D.Sc., M.A.

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TRADE MARK **NOVOSTAB** BRAND NEOARSPHENAMINE

NOVOSTAB possesses high therapeutic activity combined with low toxicity. It may be administered either in aqueous solution or dissolved in Thiostab (sterile sodium thiosulphate solution).

TRADE MARK **STABILARSAN** BRAND ARSPHENAMINE DIGLUCOSIDE

A STABLE compound of arsphenamine and glucose supplied IN SOLUTION READY FOR USE.

TRADE MARK **SULPHOSTAB** BRAND SULPHARSPHENAMINE

THE Arsphenamine Compound recommended for deep subcutaneous or intramuscular injection. Particularly suitable for Congenital Syphilis.

Novostab, Stabilarosan and Sulphostab are manufactured under Licence No. 19, Therapeutic Substances Act, 1925 and are approved by the Ministry of Health for use in Public Institutions.

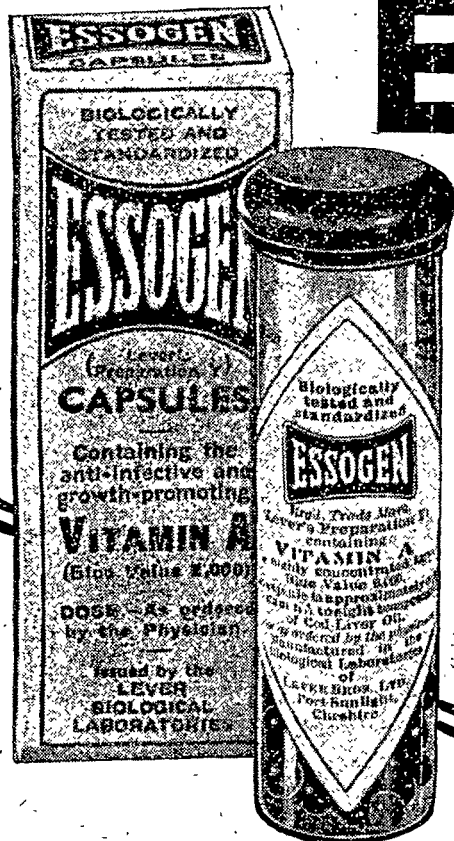
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LONDON MEDICAL EXHIBITION (Oct. 15th-19th)**

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Nottingham 45501

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ESSOGEN**VITAMIN A** (Blue Value 2000)

is the most potent concentrate of Vitamin A so far marketed, having a Blue Value of 2000, i.e. 200 times that of a good cod liver oil. It has been perfected after many years of research in the Biological Laboratories of Lever Brothers Limited.

Used in a comprehensive series of tests under the auspices of the Medical Research Council (Annual Report 1929/30), Essogen (Lever's Preparation Y) is now offered to the medical profession as a well authenticated and accurately standardized preparation of the anti-infective Vitamin A.

Supplied in 2 min. capsules
in Tubes of 50 and Bottles
of 500

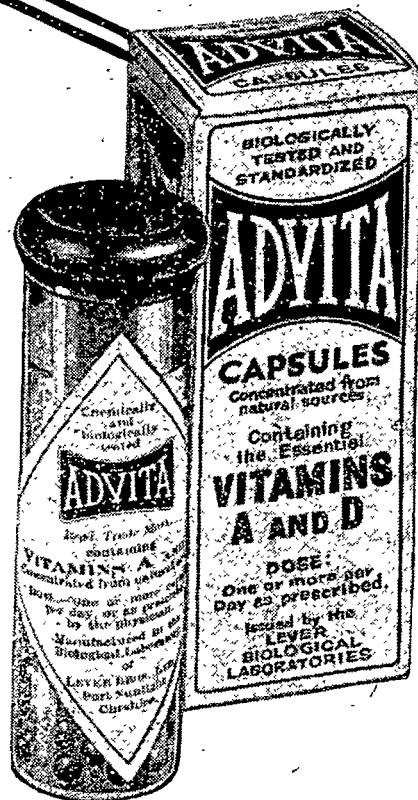
ADVITA**VITAMIN A** (Blue Value 1250)and **VITAMIN D** (1000 u.p.g.)

Advita—prepared from natural sources—is a highly concentrated form of Vitamin D, balanced with Vitamin A in order to obviate any possible danger that might arise from the use of concentrated forms of Vitamin D alone. It effectively takes the place of cod liver oil in the prevention or treatment of rickets and in the promotion of proper calcification of the bones and teeth.

Supplied in 2 min. capsules
in Tubes of 50 and Bottles of 500

PRICES ON APPLICATION.

Sole Distributors for the Biological Laboratories of
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PEPTENZYME contains all the enzymes and internal secretions necessary for the process of digestion—salivary, peptic, and intestinal glands, with pancreas and spleen. The enzymes are un-

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OTHER PRODUCTS INCLUDE:

PROTONUCLEIN.—Mixed glands—for correcting insufficiencies of the internal secretory system, by building up the defensive forces of the body and restoring physiological balance.

ZYMOCID.—A non-toxic, non-staining preparation for use as a mouth-wash, for the treatment of various skin affections, and for cleansing wounds.

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PANCROBILIN.—Bile and pancreas—Nature's own formula for treating constipation and obstipation.

PANACOIDS.—Desiccated Pancreas and desiccated duodenal substance protected by an effective enteric coating.

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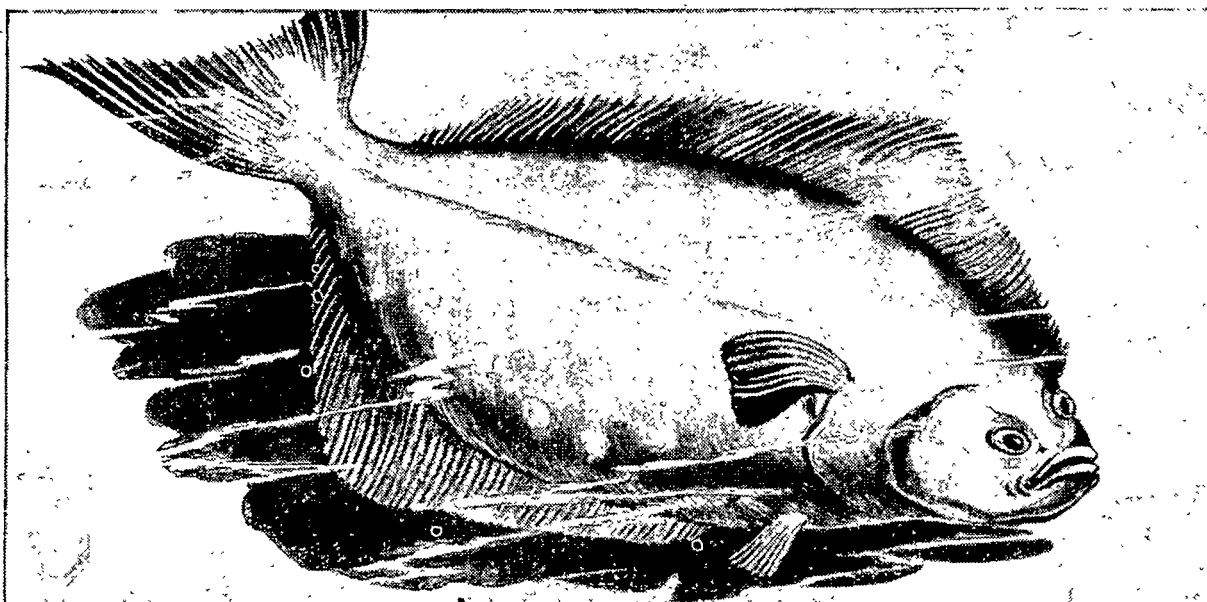
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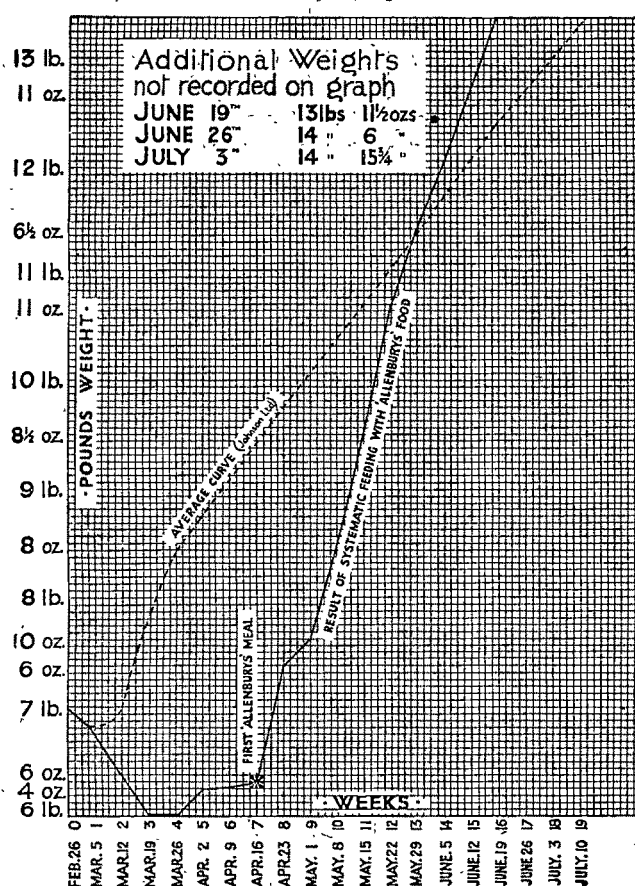
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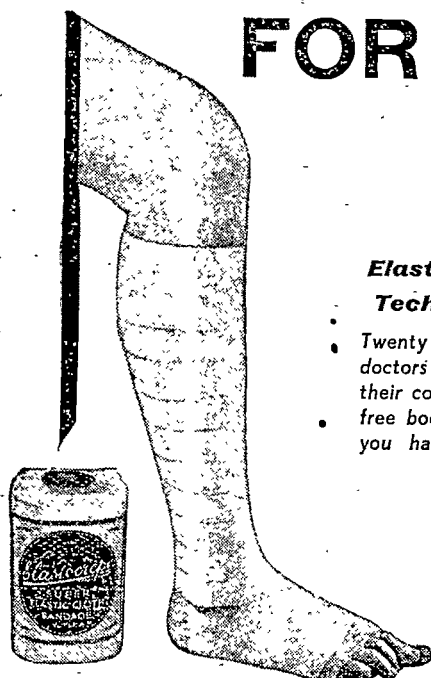
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BRITISH MEDICAL JOURNAL

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THE CLINICAL IMPORTANCE OF ACHLORHYDRIA*

BY

ARTHUR F. HURST, M.A., M.D. OXON., F.R.C.P.

SENIOR PHYSICIAN TO GUY'S HOSPITAL

So much has been written on achlorhydria during the last twelve years that it might be thought that very little more could be said about it. But I think there is still room to discuss it from a somewhat wider point of view than has been possible until recently, by considering how it arises and how it comes to be associated with such a remarkable variety of diseases, and, most important of all, how the latter can be prevented by preventing the development of achlorhydria, or, when this fails, by curing the underlying condition instead of merely treating it symptomatically by the substitution of artificial for natural gastric juice. In order to do this I shall have to begin by referring to some fundamental physiological facts concerning the functions of gastric juice.

Functions of the Gastric Juice

1. *Peptic Digestion.*—The glands of the body of the stomach contain two kinds of cells: chief cells, which secrete pepsin, and parietal or oxyntic cells, which secrete hydrochloric acid. The most obvious function of the hydrochloric acid is to activate the pepsin so that it can digest proteins. This is, however, not an essential function, as tryptic activity in the small intestines is so efficient that digestion of meat is unimpaired in complete achlorhydria and after gastrectomy.

2. *Antiseptic Action.*—The antiseptic action of the acid is more important. It destroys streptococci and other organisms which are swallowed with saliva from the mouth and with mucus from the nose and pharynx. It also helps to protect against infection with bacteria present in food and drink. There is a good deal of evidence to show that bacillary and amoebic dysentery occur much more commonly in people with achlorhydria or hypochlorhydria than in those with a normal secretion of acid (Camps, 1933), and the same probably holds good for typhoid and other parenteric infections and for cholera. I am confident that the Services would save a great deal of invaliding if they took the precaution of giving test-meals to all men before sending them to the Tropics in order to eliminate those with achlorhydria.

Knott (1927) has shown that the increased alkalinity of the contents of the small intestine which results from achlorhydria favours its invasion with *B. coli* from the colon; this organism is consequently found in large numbers in the duodenum, which is normally quite sterile. The spread of *B. coli* occurs with extraordinary rapidity. The stomach and duodenum are infected within a few hours of the perforation of a gastric or duodenal ulcer and the consequent inhibition of the secretion and movements of the stomach (Löhr, 1924). This explains why the peritoneum is sterile if an operation is performed within six hours of perforation but after that becomes progressively more heavily infected.

Infection of the small intestine with streptococci from above and with *B. coli* from below, combined with the mechanical irritation of the mucous membrane by food which is insufficiently softened and broken up owing to the deficient quantity

and solvent activity of the gastric juice, is very apt to lead to chronic enteritis. Moreover, when the gastritis which caused the achlorhydria is a result of the action of some swallowed irritant, the small intestine is liable to be damaged at the same time as the stomach. The functions of the small intestine are difficult to investigate and consequently very little is known about their derangements, but we are gradually accumulating evidence that many symptoms ascribed to the stomach and colon are really due to disorders of the small intestine. Thus chronic diarrhoea is frequently associated with achlorhydria; though these cases, which are sometimes wrongly diagnosed as colitis, are now generally regarded as gastrogenous in origin because of the rapid disappearance of the diarrhoea with acid, true enteritis is often present as well.

Cholecystitis is frequently associated with achlorhydria, and is, I believe, generally due to an ascending *B. coli* infection from the duodenum (Hurst, 1932). Even when free acid is present in the stomach the symptoms often date from an attack of acute gastritis, in which achlorhydria may occur temporarily, as Beaumont (1833) demonstrated in his observations on the effect of a drinking bout on Alexis St. Martin, or from pregnancy, which is also often associated with temporary achlorhydria. On restoration of normal gastric secretion the infection dies out from the duodenum, leaving, however, the seeds for the development of inflammation and stone formation in the gall-bladder. The nausea which is sometimes associated with achlorhydria is probably often due to the accompanying cholecystitis.

3. *Haemopoiesis.* (a) *Absorption of Iron.*—The diet taken by most people contains amply sufficient iron to maintain the normal percentage of haemoglobin in the blood. When, however, the diet is deficient or excessive quantities of blood are lost in menstruation or from other sources, a microcytic anaemia results if an insufficient proportion of the iron in the food is absorbed. This may occur in achlorhydria, but it is uncertain whether it is due to there being no hydrochloric acid to convert the organic iron in the food to a form suitable for absorption, or to a failure of absorption by the small intestine, which is so frequently in an unhealthy condition when achlorhydria is present. The latter is probably the true cause, as the simple administration of hydrochloric acid has no effect on the anaemia in such cases, though when large doses of inorganic iron are given the intestines are still capable of absorbing a sufficient proportion for rapid recovery to take place. (b) *Production of Haemopoietin.*—Castle has proved that the gastric juice contains a substance, the "intrinsic factor," which acts on something present in protein food, the "extrinsic factor," to produce the normal stimulant for the formation of red corpuscles by the bone marrow, its absence leading to Addisonian (pernicious) anaemia. Wilkinson's (1933) investigations indicate that the intrinsic factor, which he calls "haemopoietin," is an enzyme. According to Meulengracht (1934) it is produced by the glands in the pyloric end of the stomach and probably the fundus, which contain none of the chief and parietal cells of the glands of the body of the stomach, which secrete respectively pepsin and hydrochloric acid.

4. *Production of Neuropoietin.*—The gastric juice contains an enzyme which is produced by the same glands and acts

* Read in opening a discussion in the Section of Medicine at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

in the same way as haemopoietin to form a substance which is essential for the normal nutrition of the central nervous system. This enzyme, which may be called "neuropoietin," is not identical with haemopoietin, as either may be absent from the gastric juice whilst the other is present. Its absence leads to degeneration of the posterior and lateral columns of the spinal cord. Though the resulting disease is generally associated sooner or later with Addison's anaemia, this is not invariably the case, and degeneration of the cord was found in only 85 per cent. of fatal cases of Addison's anaemia in the days before the introduction of treatment by liver. Salus and Reimann found haemopoietin in the gastric juice of five patients with subacute combined degeneration of the cord and achlorhydria whose blood picture was normal, though it was absent in seven other patients who had Addison's anaemia in addition to the spinal degeneration.

Pathogenesis of Achlorhydria

Out of every hundred normal people about ten secrete more and ten secrete less hydrochloric acid than the remaining eighty (Bennett and Ryle, 1920). The hyperchlorhydria and hypochlorhydria are expressions of what I have called respectively the hypersthenic and hyposthenic gastric constitutions, and both are often familial. They are compatible with perfect general health and good digestion, but whereas the 80 per cent. of people with the average type of stomach are likely to pass through life without developing any serious gastric disorder, most of those with hyperchlorhydria suffer sooner or later from gastric or duodenal ulcer, and most of those with hypochlorhydria develop achlorhydria with its many associated troubles. In both cases this is generally the result of the chronic gastritis which follows prolonged mechanical or chemical irritation of the gastric mucous membrane. Mechanical irritation may be caused by insufficient mastication when food is bolted or dentures are deficient, and by the consumption of excess of coarse vegetable material, including the roughage which is so widely and unwisely recommended for constipation.

The chief chemical irritants are alcohol, especially when taken undiluted on an empty stomach or mixed with other irritants in the form of cocktails; strong tea and coffee; excess of curry, pickles, pepper, and mustard; drugs such as bromide, iodide, mercury, digitalis, quinine, and salicylates, which are taken continuously for long periods; and the poisons which are swallowed when too many cigarettes are smoked. Chronic gastritis is also a common sequel of the acute gastritis caused by food poisoning and by the excretion of toxins by the gastric mucous membrane in acute infections such as gastric influenza, scarlet fever, and septicaemia. These exciting causes are so universal that very few of those predisposed by the hypersthenic or hyposthenic gastric constitution escape. Consequently 10 per cent. of people dying after the age of 40 are found to have an active gastric or duodenal ulcer or the scar of a healed ulcer (Stewart, 1929), and at least 10 per cent. of people over 40 have achlorhydria (Hartfall, 1932).

It is still uncertain whether achlorhydria is ever congenital and due to an inborn error of secretion. In their investigations on a hundred healthy students Bennett and Ryle found that four of the ten with deficient gastric secretion had complete achlorhydria. Combining their statistics with those of Baird, Campbell, and Hern (1924), Wright (1924), and Apperly and Semmins (1928), it is found that 3.4 per cent. of 497 healthy students and children had achlorhydria. But the achlorhydria may have been acquired as a result of acute gastro-enteritis or some general infection in infancy or early childhood. Achlorhydria is often familial; the associated abnormality of the gastric mucous membrane rather than any constitutional weakness of the bone marrow or spinal cord is the

cause of the frequent occurrence of Addison's anaemia and subacute combined degeneration of the spinal cord in more than one member of a family. Records have been published of about 140 families in which two or more members in one to four generations were affected with Addison's anaemia with or without subacute combined degeneration of the cord, and fifty-nine families in which one of these diseases occurred in one or more members of a family and achlorhydria in others, some of whom were young children (Hurst, 1927, Conner, 1930, Wilkinson and Brockbank, 1931). Ellis and Frank have both observed twins suffering from Addison's anaemia. All these facts point strongly to the achylia being constitutional. It is possible, however, that the constitutional condition was an extreme degree of hypochlorhydria, which would be likely to result in achlorhydria at an early age and in Addison's anaemia or combined degeneration of the cord in later life in several members of a family. That achlorhydria may be a sequel of familial hypochlorhydria was shown by two sisters under my care with achlorhydria; treatment of the gastritis led to restoration of the secretion of acid in one but not in the other. Moreover, Wilkinson and others have found that hypochlorhydria as well as achlorhydria is frequently present in other members of the family of patients with Addison's anaemia.

The strongest evidence in favour of the existence of a true constitutional achylia is the occasional discovery of normal, or almost normal, gastric mucous membrane in patients with Addison's anaemia. Passey (1922) found normal oxyntic cells and no evidence of inflammation in a fragment of gastric mucous membrane removed during an operation for appendicitis in a patient of mine with Addison's anaemia and achlorhydria.

Effect of Gastritis on the Gastric Juice

The gastric mucous membrane attempts to protect itself against mechanical and chemical irritants by the secretion of mucus. This mucus is probably produced by the tall columnar cells which line the whole surface of the stomach; it is independent of the dissolved mucus which is always present in normal gastric juice and is presumably secreted by some of the cells of the gastric glands. It is such a weak alkali that its buffer action is hardly appreciable, but it contains sufficient sodium bicarbonate to neutralize some of the acid of the gastric juice (Bonis, 1930). At the same time some of the tenacious mucus adheres to the surface of the mucous membrane and blocks the mouths of the secreting tubules, thus reducing the quantity of gastric juice which can gain access to the lumen of the stomach. The inflammation of the gastric mucous membrane depresses the functional activity of its glands. The oxyntic cells are the most delicate, so that the hydrochloric acid is the first constituent to be seriously affected. If the healthy stomach produced a gastric juice of average or more than average acidity, the reduction of acidity brought about in these three ways is of no importance. If, however, the healthy stomach secretes a gastric juice of less than average acidity, as occurs in individuals with the hyposthenic gastric constitution, achlorhydria results.

In about 60 per cent. of cases the excess of mucus is sufficient by itself to account for the achlorhydria, as on giving a second test-meal after washing the stomach with plain water so as to dislodge the mucus, free acid is found in some of the fractions. In an additional 20 per cent. of cases removal of the exciting causes of the gastritis and treatment of the inflamed mucous membrane by lavage are followed by restoration of normal secretory activity of the stomach.

In rare cases the initial inflammation is so intense that some or all of the oxyntic cells are at once destroyed.

In severe chronic gastritis with achlorhydria the mucous membrane is invaded by streptococci swallowed from the mouth, and progressive atrophy of the glands takes place. Restoration of secretion is then impossible, and the injection of histamine produces no response, even if all active inflammation is overcome by treatment, the condition being, in fact, a true achylia gastrica and not merely achlorhydria. In true achylia most of the cells secreting pepsin are also destroyed.

The production of haemopoietin and neuropoietin by the mucous membrane of the pyloric end and fundus of the stomach is very rarely diminished sufficiently to give rise to Addison's anaemia and subacute combined degeneration of the spinal cord, except in the severe cases of gastritis in which true achylia occurs. In exceptional cases of Addison's anaemia the damage to the mucous membrane is not irreparable. I have had three cases in which the secretion of hydrochloric acid returned as a result of treatment of the gastritis; in one of these, recorded by Shaw in 1926, the patient is still after eleven years completely well with normal gastric juice and normal blood, though he has never taken stomach extract or liver. In the other two cases the restoration of gastric acidity was not accompanied by any return of haemopoietin production, and the patients still require liver. Similar cases of restoration of acidity have since been recorded by McPeak and Neighbors, Wilkinson, Heeres, Seyderhelm and Opitz, and Davidson. In Davidson's case haemopoietin is now also secreted, so his patient can be classed with my first case as an example of complete recovery. In those cases in which the secretion of hydrochloric acid, but not of haemopoietin, returns, the glands in the pyloric end and fundus of the stomach, but not those of the body, are presumably degenerated, just as they must be in the 1 per cent. of patients with Addison's anaemia in whom free acid is present throughout. Hydrochloric acid continues to be secreted in subacute combined degeneration of the cord, though no neuropoietin is produced, in about the same proportion of cases.

Post-Operative Achlorhydria

1. *Gastro-jejunostomy*.—Partial neutralization by the alkaline duodenal secretions which enter the stomach through the stoma after gastro-jejunostomy, together with the increased rapidity of evacuating, reduces the quantity of free acid present. As, however, the operation is generally performed for duodenal ulcer, in which hyperchlorhydria is almost always present, it is rare for the fall to be sufficient to lead to achlorhydria. When achlorhydria is present after gastro-jejunostomy, the operation has generally been needlessly performed on a patient who already had achlorhydria, or on one with a chronic gastric ulcer in whom the original hyperchlorhydria had been replaced by hypochlorhydria as a result of chronic gastritis. In rare instances, however, the hyperchlorhydria of a duodenal ulcer may be followed by achlorhydria after gastro-jejunostomy. This appears to be due to exceptional severity of the chronic gastritis which always occurs when excess of bile enters the stomach, but which fortunately does not often give rise to symptoms.

Though the achlorhydria makes it impossible for an anastomotic ulcer to develop, it is not an unmixed blessing. Chronic enteritis with diarrhoea and chronic cholecystitis are occasional sequels. Simple achlorhydric anaemia may develop under the same conditions as those which lead to its occurrence in ordinary achlorhydria. I have seen one case of the kind in a man (Cosin and Hurst, 1930), and one in a woman, and one male and fifteen female cases have been recorded by Witts, Davies, and Meulen-

gracht, the haemoglobin varying between 24 and 70 per cent. and the interval after the operation between four and twenty-five years.

The gastritis following the operation may be of such severity that the gastric juice is not merely neutralized, but is no longer secreted, and the achylia may then be associated with absence of haemopoietin or neuropoietin. I know of nine cases in which these diseases followed gastro-jejunostomy; in the majority nothing was known about the gastric acidity before the operation, but one patient of mine had a duodenal ulcer with hyperchlorhydria and developed achylia with Addison's anaemia and subacute combined degeneration of the cord eighteen months after gastro-jejunostomy (Glanvill and Hurst, 1930), and Salus (1932) has recorded two fatal cases of subacute combined degeneration of the cord without anaemia which appeared fifteen years after gastro-jejunostomy, test-meals having shown that free acid was present before but absent after the operations.

2. *Complete and Partial Gastrectomy*.—One would expect the complete achylia which follows removal of the entire stomach to be followed before long by Addison's anaemia and subacute combined degeneration of the cord, owing to the loss of the glands which produce haemopoietin and neuropoietin. This occurred in cases described by Dennig, Hochrein, Poole and Foster, Ungley, and possibly in a patient of Moynihan's. On the other hand, Mr. H. B. Butler of Guildford tells me that a patient on whom he performed complete gastrectomy in 1926 has shown no signs of anaemia or nervous disorder since, although he has had neither stomach extract nor liver, and Walters (1933) described a similar case two years after operation.

Partial gastrectomy is frequently followed by simple achlorhydric anaemia. As the fundus probably secretes haemopoietin and neuropoietin, Addison's anaemia and subacute combined degeneration of the cord develop only in the exceptional cases in which severe atrophic chronic gastritis involves the remaining portion of the stomach. In 1931 I collected five cases of this kind, and since then at least seven others have been recorded. We always give a test-meal after operations on the stomach. If achlorhydria is present there is less need for prolonged care in diet than if hyperchlorhydria persists, as an anastomotic ulcer cannot develop, but in such cases we advise the patients to take 30 grains of iron and ammonium citrate three times a day for one week in every four, and some form of liver at least once a week for the rest of their lives, as a safeguard against the development of simple and Addisonian anaemia.

Achlorhydria and Carcinoma of the Stomach

Achlorhydria is present in about 65 per cent. of patients with carcinoma of the stomach. It was formerly believed that the achlorhydria was a result of the carcinoma, but in my Schorstein Lecture of 1929 I brought forward evidence to show that the achlorhydria is really caused by chronic gastritis which is present before the growth develops, the growth being a result of malignant degeneration of the chronically inflamed mucous membrane. All the evidence I have been able to collect since then confirms this theory. I know of no case in which free acid was found when a growth was first recognized and disappeared at a later date. The hyperchlorhydria remained unaltered in three patients with chronic ulcers which subsequently underwent malignant degeneration. In another case of ulcer-cancer, in which operation was refused, the acidity actually rose whilst the carcinoma was growing, presumably owing to the favourable effect on the associated gastritis of the diet and lavage which

kept the patient comparatively free from pain. A similar rise was observed by Pollard and Bloomfield (1931) in two cases of carcinoma after an interval of four and six months respectively. On the other hand, I have had four patients in whom achlorhydria was known to be present before the carcinoma developed, and I have found records of at least nineteen similar cases.

As carcinoma follows chronic achlorhydric gastritis, which may also cause simple anaemia, Addison's anaemia, and subacute combined degeneration of the cord, it is natural that these conditions sometimes occur with or precede the development of a growth. Thus carcinoma of the stomach developed in a patient of mine who had recovered from severe simple achlorhydric anaemia as a result of treatment with iron. The occasional association of carcinoma of the stomach with Addison's anaemia and subacute combined degeneration of the cord has long been recognized; I have myself seen five such cases, and at least twenty-two others have been recorded (Wilkinson). Now that most patients with Addison's anaemia can be kept free from recurrence indefinitely with stomach extract or liver, an increasing number of them will develop carcinoma of the stomach if my theory is correct. I have seen two such cases, in one of which carcinoma developed nine years after the onset and four years after the symptomatic cure of Addison's anaemia as a result of treatment with liver (Plummer, 1931). Dyke and Harvey (1933) found that three out of fifty-two patients with Addison's anaemia under treatment died in a period of five years from carcinoma of the stomach, and from inquiries I have made among physicians who have had many cases of Addison's anaemia under their care I find that a good many cases of this kind have now been observed.

The association of cancer and Addison's anaemia with achlorhydria was strikingly demonstrated in the history of a family described by Borovanská-Felklová, in which a man died of carcinoma of the stomach, his eldest son had Addison's anaemia and subsequently developed carcinoma of the stomach, two other sons had Addison's anaemia, and the fourth had achlorhydria alone.

In almost every undoubted case of ulcer-cancer in which a test-meal has been given free acid was present in spite of the fact that the history was often very long, whereas when the evidence pointed against the growth being secondary to a simple ulcer, achlorhydria was generally present, even if the test-meal was given at a very early stage of the disease (Orator, 1925; Stewart, 1931). Free hydrochloric acid was found in all but one of eleven cases of carcinoma of the stomach with more than eighteen months' history, whereas seventeen out of nineteen with a history of less than six months had achlorhydria; these statistics of my own (1931) are confirmed by those of Panton and Tidy (1910), Orator, and Stewart. The chance of long survival after a successful gastrectomy is greater in patients with achlorhydria than in those with free acid (Hartman, 1921), although the reverse would be the case if achlorhydria was the result of the presence of a growth in a stomach which had hitherto produced free acid.

Cramer (1934) has shown that the total incidence of cancer is the same in all nations, both sexes, and in all classes, although there are wide differences in the relative frequency in which different organs are involved. This indicates that a constitutional tendency for cancer to develop exists in a certain proportion of human beings, and that the organ involved must depend upon local conditions. I have long believed that cancer never develops in a healthy stomach. In about 25 per cent. of cases malignant degeneration occurs in a simple ulcer and in the remainder it occurs in chronically inflamed mucous membrane, the former being always associated with the presence of free hydrochloric acid and the

latter generally with achlorhydria, though the free acid and the achlorhydria have, *per se*, nothing to do with it. It is the association of the constitutional tendency to cancer with one form of the hypersthenic gastric constitution on the one hand and with the hyposthenic gastric constitution on the other which results in cancer of the stomach. At present we have no knowledge of how the cancer constitution can be controlled, but it should be possible to prevent the development of cancer of the stomach by preventing chronic gastric ulcer and chronic gastritis, or, when this fails, recognizing and overcoming them at as early a stage as possible. Prophylaxis consists in preventing the various exciting causes of ulcer and gastritis which have already been described, and which, trivial as they may appear to be, are none the less of supreme importance.

Treatment

Until recently it was assumed that the discovery of achlorhydria was an indication for treatment with hydrochloric acid. It is true that many of the associated symptoms can be overcome by this means, but the underlying gastritis remains unaltered and may become progressively worse. It may finally affect the production of haemopoietin and neuopoietin, and the chronically inflamed mucous membrane may undergo malignant degeneration. It is therefore clear that the gastritis itself should always be treated. This has resulted in the return of secretion of acid in no less than 82 per cent. of our patients (Hartfall, 1932), who thus have the advantage of secreting their own gastric juice instead of having to buy it from their chemist, and the treatment may also prevent the development of Addison's anaemia, subacute combined degeneration of the cord, and carcinoma of the stomach.

Pyorrhoea must be completely overcome by conservative measures when possible, but otherwise by extraction; infected tonsils must be enucleated, and sinus infection must receive appropriate treatment. It is a good plan to give the patient nothing but milk or milky feeds for the first few days of treatment. In the severe cases in which blood is present in some of the fractions of a test-meal, or, as occurs more frequently, occult blood is found only in the stools, the strict diet should be continued till the blood has disappeared. As a rule, two or three weeks suffice, but in exceptional cases of hypertrophic or polypoid gastritis, in which the danger of malignant degeneration is probably considerable, a longer period may be required. The patient is subsequently given an un-irritating diet for six months, or, if the achlorhydria persists, for the rest of his life. He should be teetotal at first and later should confine his drinks to lunch and dinner or immediately after. He should never indulge in spirits or cocktails on an empty stomach. Smoking should be prohibited during the period of strict treatment; after that it may be allowed in moderation, preferably after meals, and the swallowing of irritating juice should be prevented by the use of clean pipes and of cigarettes with a wool plug in the mouthpiece.

The stomach should be washed out every morning with dilute hydrogen peroxide (1 drachm to the pint) until the washings are clear. The treatment should be continued until no mucus is brought away. It is then given on alternate days, later twice a week, and finally once a week for two or three months. In severe haemorrhagic cases 1/2 to 1 part per thousand silver nitrate solution should be used instead of hydrogen peroxide in the early stages. When the washings no longer contain mucus a second test-meal must be given, as it is only necessary to prescribe hydrochloric acid for the 20 per cent. of patients in whom achlorhydria is found to be still present.

From 1 to 2 drachms of the dilute acid (*British Pharmacopoeia*) are given in 5 to 10 ounces of water, to which the juice and pulp of an orange have been added. As in these residual cases the secretion of pepsin is generally reduced, a saltspoonful should be added to the mixture. The first dose should be taken fasting before breakfast, when its antiseptic action is not impaired by partial neutralization with alkaline food. The second is given as a beverage with lunch, and the third with dinner. Patients rapidly get accustomed to it, and should rarely have any difficulty in taking it regularly for the rest of their lives.

Conclusion

Thirty years ago Professor Knud Faber of Copenhagen came to the conclusion that achlorhydria is always secondary to gastritis, and he has maintained it ever since. When shortly after the war I first became interested in the subject I was so impressed with the constitutional factor that I was inclined to doubt whether gastritis was of any importance at all. I now realize that gastritis and constitutional factors are of equal importance. Without gastritis there is no achlorhydria, but gastritis does not cause achlorhydria unless the patient is predisposed by having the hyposthenic gastric constitution. Gastritis in the presence of the hypersthenic gastric constitution may lead to duodenal ulcer and gastric ulcer, and a gastric ulcer may become malignant, but achlorhydria does not develop. It is the conjunction of the apparently trivial causes of gastritis with the hyposthenic gastric constitution which leads to achlorhydria, and the conjunction of these with the constitutional predisposition to cancer which leads to carcinoma of the stomach.

I expect that this is the last time there will be a discussion on achlorhydria, for the problem has shifted, and we must in future discuss gastritis, its causation, early diagnosis, treatment, and prophylaxis, just as we discuss nephritis rather than albuminuria. It is gastritis which causes achlorhydria, and gastritis, not achlorhydria, which causes Addison's anaemia and subacute combined degeneration of the cord and predisposes to carcinoma of the stomach. The prophylaxis of gastritis is the prophylaxis of these diseases. We may therefore look forward to the time when the prevention of gastritis, and, when prevention fails, its early recognition and adequate treatment, will lead to the disappearance of cancer of the stomach, which every day of the year claims over forty victims in Great Britain.

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ACUTE AND CHRONIC SPRAINS*

BY

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I think the Section is wise to have selected for discussion "Acute and Chronic Sprains," so common in occurrence, but so little discussed, that it is well for us to review our ideas and be sure that they are based on sound principles. These conditions and their treatment did not attract us in our student days; they were not big enough. Who ever heard of an out-patient dresser, or even a house-surgeon, who was really interested in a sprained ankle? And yet when the doctor starts in practice it is the minor injury, far more than major surgery, which forms the bulk of the surgical side of his practice. His reputation as a good doctor will be made not by his knowledge and management of cerebral tumours, but by his handling of the sprained wrist and the Colles fracture. I would focus your attention on what passes as minor surgery, and would remind you that it is only "minor" within the shelter of the hospital walls, and assumes very different proportions when we are faced with the same problem in after-life.

We will consider the acute sprain and its management, and then pass on to the consideration of those sprains which fail to clear up and become chronic. But, before entering into a discussion on the diagnosis and treatment, certain points in the anatomy and physiology of joints must be recalled in order to be sure that our treatment is based on a clear appreciation of the underlying principles.

Physiology of Joint Movements

The essential factor to recognize is the importance of the muscles. Many complex structures go to form a joint—bones, cartilage, ligaments, and so on—but for any real understanding of the pathology of joints the role of the muscles must be emphasized.

Muscle is the first line of defence of a joint against injury, and protects it all the time against the repeated though small injuries which are met with in everyday life. If a false step is taken in walking and the balance momentarily lost, it is muscle action which prevents a strain or sprain of the ankle or knee-joint if we are to avoid injury. If the force is too great, or is applied for too long a time, the muscle gives way; it can no longer protect the joint, and the force then falls on the second line of defence—namely, the ligaments. Here once again consequences depend on the degree of force. If the latter is slight, the ligament may withstand strain, and no ill effect will follow. If it is moderate, some fibres of the ligament will tear, generally from one or other attachment, and a sprained joint results. If the force be severe, a ligament may tear in its entirety, perhaps taking with it a small flake of bone from the point of its insertion or tearing away from its periosteal attachment, and a sprained joint results. Finally, if the force be very severe or prolonged, first the muscle, then the ligament, and finally the bone itself yields, resulting in a fracture.

This conception must be remembered, and we must guard against thinking of a fracture as a broken bone, or of a sprain as a torn ligament; we must not forget the all-important fact that it is on muscle that the first strain falls. Indeed, the fracture is often the least important part of the injury—that is, when considered from the point of view of solution of continuity in the bone. For example, a sprained back with fracture of the transverse

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process of a vertebra is, academically speaking, a fracture, but it is the muscle injury, the tearing of muscle attachment, the haematoma, and the effect on soft parts which should take precedence in determining the appropriate treatment.

Partial rupture of a ligament, the tearing of a few fibres, is far more common than a complete rupture. The determination of the degree of injury is essential to a rational treatment of that injury. A complete tearing away of the attachment of the internal lateral ligament of the knee—in my experience a rare event—will necessitate at least prolonged fixation and protection, or even operative repair. The far more common tearing of a few fibres at the femoral attachment of this ligament is ill suited to such prolonged fixation, and recovers more quickly if appropriate means are taken to aid and encourage early functional use of the joint.

Diagnosis

The diagnosis of the acute sprain is self-evident, and in practice it is only necessary to exclude fracture. Careful case-taking or history is of importance, and the clinical examination must be thorough. The ultimate diagnosis of fracture will be decided by *x*-ray examination, but the clinician should be able to form a fair idea whether the sprain is uncomplicated or whether a fracture without displacement coexists. The site of maximum tenderness on pressure will generally give the clue. Tenderness over a ligamentous attachment is strong presumptive evidence of sprain; localized tenderness over the bone, at some other point, suggests fracture.

It cannot be emphasized too strongly or repeated too often that *x*-ray examination is an essential part of the clinical investigation of every patient in whom the symptoms complained of follow injury. Failure to observe this rule may lead the practitioner into all kinds of trouble. It will not help him to say that the fracture found at some later examination is trivial, and that its earlier discovery would not have altered his treatment. He must foresee in every injury the possibility of a medico-legal action, and he must safeguard himself as well as his patient. The case in which an injury to the back has resulted in a crush fracture of the spine is within the experience of most of us. How often does this injury pass unrecognized, with what disastrous results, and yet how simple is the *x*-ray diagnosis. The split fracture of the fibula without displacement and the fracture of the carpal scaphoid are common examples of bone injury frequently undiagnosed because of the failure to have an *x*-ray examination.

A further word of warning is needed. An *x*-ray plate in itself will not suffice. The *x*-ray examination must be thorough. The radiographs must be taken in two planes, or, if need be, stereoscopically. In certain situations a radiograph of the equivalent joint on the uninjured side should be taken for comparison; this is useful in young patients in whom the epiphyses are still unjoined—for example, the child's elbow. And the *x*-ray plates must be interpreted by someone accustomed and experienced in such interpretation. He may be a radiologist or a surgeon; he must know what he is looking for, so that he reads neither too little nor too much in the picture.

Treatment of Acute Sprains

The line of treatment on which most of us were brought up in our hospital days leaves much to be desired and is rightly criticized. Hot lead lotion, evaporating lotion, a bandage, and rest sufficed for the bulk of patients in our casualty departments, and formed the recognized treatment of the textbooks. If we excluded a fracture by *x*-ray examination, we were content to let these patients work out their own salvation on these or similar lines.

The more general introduction of massage and physical treatment in our hospitals improved matters, but unfortunately these departments do not seem to attract the average medical student, who may well pass through his whole career without any very clear idea of what they accomplish, because he does not take the trouble to attend. Those of us who are called upon to lecture or to demonstrate to post-graduates must be struck by the interest and the eagerness to learn the modern treatment of these simple injuries which is shown by the practising doctor.

Now what should be the treatment of an acute sprain? As an example, let us imagine an acute inversion sprain of the ankle seen an hour or two after the injury. The region of the ankle is swollen and painful, and there is tenderness on pressure in front and to the outer side of the joint. The anterior fasciculus of the external lateral ligament is partly torn from its attachment. The principles of treatment can be described under three headings: (1) pressure to limit the swelling; (2) protection to limit and prevent further damage; and (3) encouragement of function to promote recovery.

PRESSURE

Pressure can be applied by firm bandaging over layers of cotton-wool, and in the example chosen the bandage should include the heel. The more usually applied figure-of-eight bandage omitting the heel is insufficient and fails to give support just where it is most needed. This pressure bandage, if applied early, limits the amount of the swelling; if the ankle is already swollen, it is useful in getting rid of such swelling.

PROTECTION

The firm bandaging protects for the first thirty-six hours, and then, if necessary, this should be replaced by adhesive plaster strapping. The strapping starts above the ankle on the inner side, passes down under the heel, and up on the outer side. The foot is held slightly everted to take strain off the injured ligament while this support is being applied. Many layers, each superimposing the other by about one-third, are used. The strapping does not interfere with function, but protects the early stages of repair from undue strain and further damage and gives the patient a sense of comfort and security.

If the sprain be only slight strapping may be dispensed with, and the support of the compression bandage will in itself suffice. It is all a question of degree. While a very slight strain will not need protection because the muscle recovery is rapid, the moderate or severe one will recover more quickly with support; the latter does not hamper movement, which is physiological and to be encouraged. Further protection may be provided by what is called "wedging the heel" and floating it out. This is seldom needed unless the sprain is a frequently recurring one, such as I see occasionally, generally in school-girls. These recurrent sprains may manifest other features, as will be described under chronic sprains, but they can be guarded against by a simple device—namely, raising the outer side of the heel some three-sixteenths of an inch and sometimes "floating out the heel" in addition.

ENCOURAGEMENT OF FUNCTION

By this term I mean that early use of the affected limb should be allowed. In the example we are considering—inversion sprain of the ankle—the patient is allowed to put weight on the limb and need not lay up. He is encouraged to use the foot. This does not mean that he is told to go for a five-mile walk. I should not play a round of golf if I had recently sprained my ankle and it was painful, but with some support and the muscles

appropriately treated I should expect to be able to walk about and do my work from the first.

At this point we must recall what has been already said about the all-important part that muscle plays in controlling joint function, since we must concentrate on restoring muscle tone and encouraging the muscle to recover. Faradic stimulation—a method which has been described as graduated contraction—is of the greatest service. This method, as I have already stated more than once, I learned from Mr. Morton Smart in 1910, and I have used it and advised it continually since then. Essentially it consists in making muscle contract by an electrical stimulus, and both the degree and the rate of contraction are controlled by varying the stimulus. I will not enter into details of the treatment, but would emphasize its importance. Concurrently with electrical treatment massage is useful. This aids in the removal of swelling, mechanically getting rid of oedema, and improving the circulation. We generally combine electrical stimulation and massage; the one complements the other, even though the alternate contraction and relaxation, which is electrically controlled, produces what one may term auto-massage. Massage should never cause pain; it should be gentle and sedative in effect, and the small area, the site of maximum tenderness over the ruptured fibres, can be avoided.

Treated in this way, but depending on the degree of severity, a simple uncomplicated sprain should rapidly improve. The muscle quickly recovers tone, the torn structures unite, the swelling disappears, and the all-too-common sequence, the chronic sprain, is prevented.

Rotation Sprain of the Knee

There are sprains, however, which take a long time to clear up; they cannot be hurried. The commonest example is rotation sprain of the knee, such as is caused in a ski-ing accident. These severe sprains of the knee are often mistaken for torn and displaced semilunar cartilages, largely from the fact that a protective muscle spasm limits movement some 10 degrees short of full extension. The same principles should guide us in our treatment, and we must be confident of our diagnosis, for these sprains take many weeks, or even months, to recover. Unless we are familiar with this syndrome, and are true to our principles, we shall have difficulty in persuading the patient that the long period of partial incapacity is unavoidable, and forced movements or operation may be advised under a mistaken conception of the pathology.

Chronic Sprains

A simple sprain which is neglected or inefficiently treated may clear up if the injury is only trivial, but if the degree of damage is more severe symptoms will persist or will recur, and a condition that may be called a chronic sprain follow. The most common sequelae of sprains are: (1) persistent pain; (2) muscle atrophy; (3) limitation of joint movement; and (4) recurrent synovitis.

If the acute sprain be correctly treated these sequelae will be avoided. We must remember the importance of the time factor, which has been emphasized in considering the rotation sprain of the knee. The chronic sprain has supplied the main field of work for the bone-setter and the osteopath, and, to a large extent, continues to do so, both in this country and in America. One is often asked what the irregular practitioner accomplishes; what it is he really does when he claims that "he is putting a bone back in place." It is clear that unless we believe in the occult, there must be some fairly simple explanation, and it is not, I think, far to seek. He forces joint movement; he breaks down adhesions; and, if he is

successful, restores the normal range. Any medical man can do the same thing, as well or better. It is not essential to be ignorant of anatomy in order to be able to put a joint through its full range, although it is necessary to be ignorant of both anatomy and physiology if one is to say with conviction that a small bone is "out" in a wrist or an ankle which is the site of pain caused by adhesions.

The position was admirably summarized by Sir Robert Jones when, in his Cavendish Lecture, he said:

"Let me emphasize the statement that there is nothing which the manipulator does which cannot be more safely undertaken by any practitioner who possesses a knowledge of the pathology and elementary anatomy of the joints. Let it be fully realized that there are no hidden or mystic rites in the art of bone-setting."

Adhesions

The direct effect of the injury—the tearing of fibres in the ligament or joint capsule—is an outpouring of blood and lymph about the site of the tear, followed by organization of the clot, and the formation of fibrous tissue. The fibrous tissue may form a band anchoring certain folds in the capsule or preventing normal mobility of the joint. The diminution of range may be great, as shown commonly in a shoulder which is stiff as the result of enforced rest following a dislocation, or it may be small as in the inferior radio-ulnar joint or the wrist. When the patient uses such a joint and attempts to perform an ordinary everyday action, the result is pain and a feeling of weakness, or, in a weight-bearing joint, of insecurity, because of the pull on this adventitious band.

The differential diagnosis between a joint stiff as the result of inflammation and one stiff as the result of limiting adhesions is often easy but sometimes difficult. The most useful clinical test is one which we owe to Robert Jones, who used to teach that a joint stiff because of inflammation had limitation of movement in all directions, but that adhesions limited movement in certain directions only.

Adhesions limit movement very commonly, and may give rise to considerable pain and disability even when the excursion of the joint is almost, but not quite, full. It is not uncommon to see a patient complaining of disability of the knee, and on examination to make out full mobility, except that external rotation in flexion is just limited and gives rise to pain. Any gross loss of movement is easy to see, but we must bear in mind that very slight limitation caused by an adventitious band, an adhesion, may cripple the patient. Indeed, we may fail to make out any loss of movement, any diminution in the normal range, in a joint which fails to recover following injury. If we can exclude disease, inflammatory or neoplastic, and the skiagram is normal, it often repays us, empirically, to move such a joint through its full range under anaesthesia. With a clear history I should not hesitate to advise or practise manipulation, even though I could not be sure that movement was limited. One may well break down an adhesion in a joint in which the diminished range was too small to be detected with certainty on clinical examination.

The principles, then, on which we rely in undertaking the treatment of the chronic sprain are:

1. To overcome limitation of movement by forcing movement, either gradually by exercises and repeated forcible manipulation up to the patient's tolerance, or by forcible manipulation under anaesthesia.

2. To build up the musculature. It is true that active exercise is the greatest stimulus to the building up of muscle, but it is here again that the treatment by graduated faradic stimulation is of great service.

When one member of a group of muscles—for example, vastus internus—is markedly atrophied, there is no exercise that I know which rebuilds it, makes it catch up with the remaining members of the quadriceps group, so well as graduated exercise electrically provoked. The same is true in the adductor strains, caused by small tears in the muscle, the so-called "riders' strain." In the early stages it is far easier and the result is obtained more rapidly by this electrical method than by exercises. In the later stages of recovery active exercise against resistance supplements and then supplants the electrical method.

Technique of Breaking Down Adhesions

This technique, which has been given the grand name "manipulative surgery," is easily acquired. The bone-setter of the old days, who had to work without anaesthesia, developed a technique for overcoming the resistance of the antagonistic muscles and catching them off their guard. He combined rotation with the movements of flexion and extension. Hutton used to say: "The twist is the thing." But the practitioner has no need to possess any superlative or supernatural skill. Under anaesthesia he can put any joint through its full range, and, remembering that the range differs in different individuals, he can always compare it with that of the sound joint of the opposite side. Experience is of value, as, indeed, it is in all treatment, but it is not beyond the power of the ordinary doctor to acquire a working knowledge of the technique.

After-Treatment

The necessary after-treatment is to keep the parts moving, to restore function, and to prevent the re-formation of the limiting bands. The treatment conforms to that advised for the acute sprain, but the co-operation of the patient is needed. He must be encouraged to try and use the joint, assisted by the masseuse. Faradic stimulation is again a most useful part of treatment; some of us consider it an essential part.

Chronic Sprains Complicated by Sepsis or Disordered Body Chemistry

It is a fact that sprains and allied injuries in the young adult or the adolescent tend to recover more quickly than similar injuries in later life. There is, then, a second factor to bear in mind besides the injury. If a sprain in a man of 40 fails to get well we should be on the look out for a predisposing cause—for example, sepsis or disordered metabolism. There may be some apical infection about the root of a dead tooth, a septic tonsil, or there may be some chronic constipation or failure of elimination which is playing a part.

The physician should bear this in mind and examine the patient, and not focus his attention only on the injured joint. The knee which will stand ordinary use but shows signs of irritation on over-use is an instance, and, although not truly to be classed as a chronic strain, becomes painful and remains painful as the result of active use, and the trouble not infrequently clears up on removal of the underlying cause.

Sprains of Muscle and Muscle Attachments

There are certain occupational injuries which are classed as chronic sprains. The so-called "tennis-elbow" is one; this is an example of the over-use of a muscle group, and some tearing or periostitis about the attachment of the tendon into its bony insertion. The tearing of fibres in the adductors of the thigh, either in the substance of the muscle or at its attachment to the pubic ramus—the so-called riders' strain—and the tearing of fibres in the calf

of the leg—erroneously described as a ruptured plantaris, but in fact caused probably by the rupture of some of the deep fibres of the soleus—are others. It is worthy of mention that the plantaris tendon is usually found intact when we are called upon to operate for suture of a ruptured tendo Achillis, so that it is unlikely that it ruptures in the lesser injury. The detailed methods used in the treatment of these injuries of muscle will vary, but the same underlying principles will guide us in our efforts to restore function.

Conclusion

In conclusion, I would urge that these minor injuries should be given a rather more prominent place than they at present occupy in the teaching of the medical student. An effort is being made in certain directions and in some medical schools to improve the teaching on fractures, and it would be wise if we could improve our teaching on the handling of sprains and allied injuries of muscles and joints at the same time. I know how fully occupied the medical student is, how his time is taken up, and how intensive the course has become, but still I would urge that we must attend to his teaching in these simple injuries, and must insist on his having some idea of what is being done in the physical treatment departments. He does not need to be a skilled masseur, but he should know something of massage and its possibilities for good and harm that he may know when it is to be advised. He should at least see the electrical methods in use, that he may know what we are talking of when we speak of faradic stimulation of muscles. He should realize the value of a properly applied bandage; he should appreciate that a supporting bandage to assist in stabilizing a wrist should be put on round the joint itself, and not half-way up the forearm; and that for a sprained ankle the bandage must include the heel.

It is by attention, or lack of it, to diagnosis and treatment in these minor injuries that many reputations have been made or lost.

Nosokomeion is the official organ of the International Hospital Association, and is published quarterly by W. Kohlhammer of Stuttgart (annual subscription R.M. 12, plus postage). It is of special value to all who are interested in hospitals, and the international character of its contents allows a comparative view to be taken on all branches of hospital activities. The articles are printed in English, French, or German, and are individually summarized in each language. No. 1 for 1934 was a special number on the small hospital of 100 to 300 beds, and contained eleven articles, of which the following are representative: G. von Deschwanden, "Was muss der leitende Arzt eines mittelgrossen Krankenhauses wissen?"; Raphael Jackson, "The Possibilities for Administration, Management, and Accounting of the Smaller and Rural Hospitals"; Ernst Balser, "The Small Hospital of the Future capable of being Enlarged"; Gustav Birch-Lindgren, "Some Points of View on Small Hospitals"; and Marcel Labbé, "L'Organisation du Service de Diététique dans un Hôpital de 300 Lits." No. 2 contained the programme of the Fourth International Hospital Congress, to be held in Rome in May, 1935, and reports from national hospital associations and representatives of twelve nations. Other interesting articles were: B. Albert, "Fehler im Krankenhausbau" and E. M. Bluestone, "On Medical Organization in Hospitals." No. 3 contains eleven papers from this year's international post-graduate course on hospital technique, including: P. Manz, "Organisation, Technik und Einrichtung im Krankenhaus"; A. Rollier, "L'Organisation de la Cure de Travail dans la Clinique manufacture internationale de Léysin"; and Letitia Fairfield, "Ante-natal Care and Hospitals."

PATHOLOGY AND TREATMENT OF SPRAINS*

BY

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As it is customary to use the words strain and sprain somewhat indiscriminately, I would suggest that the word "strain" be used to denote injury to the muscle component of a joint, resulting from excessive stress, and "sprain" to denote injury to other structures of a joint as well as its muscles. A strain, therefore, may be defined as the state of a muscle the tissues of which have suffered damage because the normal strength of that muscle has not been sufficient to resist the stretching effect of the force at the moment of its application or because the fibres of the muscle have been taken unawares before they have had time to reach full contraction to resist the stress. A sprain may be defined as the state of a joint any of the structures of which, besides the muscles, have been injured as the result of a force applied to it. When the degree of violence is such that a muscle's power of contraction is overcome, the joint elements may sustain damage of varying degree; when the damage is limited to the muscle tissue alone a strain is produced, but when it extends to one or more of the component parts of a joint, other than the muscle, a sprain results.

How an Acute Sprain is Caused

In considering injuries to joints which produce sprains certain mechanical features should be borne in mind. So far as the protection of a joint is concerned, there is an instinctive vigilance on the part of the muscles, and this constitutes a joint's first line of defence. The other structures of the joint cannot be injured unless this line of defence gives way from: (1) the stress applied to the muscles protecting the joint being powerful enough to overcome their power of resistance; (2) the muscles having been taken unawares at the moment of the application of the stress; (3) fatigue having slowed up the normal rate of the muscle's contractility; (4) loss of tone from previous injury or disease limiting the capacity of the muscles for quick reaction to a sudden increase in their tension.

In this way an acute sprain is produced, the effects of which and the time necessary for recovery vary in accordance with the extent of the injury to the tissues and the particular structures damaged. In cases in which the brunt of the strain and the main damage are chiefly referable to the muscles and the injury to other joint structures is only slight, the sprain may be looked upon justifiably as a slight acute one. While this is true, however, the result of the injury may not be so slight as it seems, and the condition is all too frequently neglected by the patient as regards treatment. This slight sprain may become serious, because the muscles lose their tone and undergo a varying amount of wasting, and the consequent loss of efficiency, which becomes greater as time goes on, ends in the joint becoming less able to perform its function efficiently and quickly, and therefore liable to further injury from causes which would be quite harmless were the muscles in their normal alert state.

In the severe forms of acute sprain one structure of a joint may suffer to a greater extent than others, but all may become affected to a more or less degree, either at the moment of the accident or following on the changes consequent to repair, so that structures not directly

affected at the time of the accident frequently become seriously implicated later.

To visualize clearly the possible results of an excessive stress applied to a joint it is worth recalling the main functions of each structure. The bones are mainly supporting, and are the levers upon which the muscles act; the ligaments aid in holding the ends of the bones together and limit their range of movement. The synovial membrane, by its secretion, helps to lessen the friction of movement and renders movement smooth; the cartilage lining the ends of the bones acts as a shock absorber.

Functional Importance of the Areolar Tissue

Filling up the interspaces round all the other structures, and carrying the arteries, arterioles, capillaries, veins, lymphatics, and nerves, is a most important joint structure—namely, the delicate areolar connective tissue. Damage to this tissue and its contained important structures is, owing to its situation and delicate nature, of frequent occurrence, and in my opinion is one of the main causes of continued loss of function of a joint after even a most trifling injury, and particularly when such injury is treated by prolonged rest. It is a somewhat soft substance possessing normally great tenacity and elasticity, and abundantly distributed throughout the body; by reason of the intercommunication of the areolar spaces effusion into this tissue is capable of travelling a long way from the seat of injury.

Areolar tissue, with its contained important structures, everywhere fills up crevices and spaces in the joints, and acts as padding between muscle groups and muscle fibres; in situations where free and easy movements are required the fibres of the supporting areolar tissue are loosely arranged, and where firm binding of parts together is necessary the fibres are densely arranged. Areolar tissue normally contains a small quantity of a translucent lymph-like fluid, sufficient to keep it moist and supple, and I suggest that the absence or diminution of this fluid, as may happen after injury, may be one of the contributory causes of the characteristic creaking sensation which takes place on movement of joints in the later stages of trauma.

By its normal moistness and suppleness and by its tenacity and elasticity areolar tissue is enabled to accommodate itself easily to the widest range of movements of the joint. When areolar tissue becomes soaked in lymph which has become stagnant after injury, unless this lymph is quickly removed it undergoes hardening changes leading to organization and adhesions, and its response to movement becomes inflexible and less pliable, resulting in a feeling of stiffness in the joint. In course of time this is followed by adaptive shortening of muscles controlling the joint, owing to similar loss of pliability and elasticity in the connective tissue of the muscle sheaths.

An important factor, therefore, producing chronic stiffness of injured joints, even after slight sprains when there is no very evident structural damage and no demonstrable adhesions, is the malnutrition of the areolar tissue due to interstitial oedema. The condition is really the outcome of imperfect repair, and is one of the most prolific causes of persistent discomfort and dysfunction in joints; it is very largely contributed to by over-rest.

Rest in the Treatment of Sprains

The advocacy of rest as the principal treatment of sprained joints almost certainly originated from the natural tendency of the possessor of a sprained joint volitionally to place that joint in the position of greatest ease, and on this fact the principle that pain is Nature's cry for rest is based. But the direct result of trauma and the processes leading to repair is a great increase of internal pressure in the surrounding tissues, due to bleeding and pouring out of

* Read in opening a discussion in the Section of Orthopaedics at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

lymph, so that there is stretching and pressure on the tissues, particularly the nerve endings, and pain in injury is quite unavoidable. Pain, therefore, may be more truly described as the "cry of the injured tissues for active help." Limitation of movement of an injured joint is also encouraged by the increase of pain, which is due to the contracting muscles further increasing tension between the tissues, and it is this close association of pain and movement which, in the belief that the prevention of pain is essential to repair, produced the theory that all movement must be prevented. Hence treatment by rest became the recognized method.

The treatment by rest is only palliative, as it certainly relieves pain, but surely this is a small matter when the disastrous consequences are realized. Rest tends to diminish circulation; absorption is not sufficiently stimulated, and the various structures become stretched by the long-continued tension. They remain relaxed for a long time, and, when organization follows, muscles, tendons, and areolar tissue become matted together, causing varying degrees of stiffness and limitation of movement. Circulation of the blood and lymph becomes further interfered with by compression of the blood and lymph vessels, due to intercellular tension. Muscular wasting from disuse and other causes takes place rapidly after injury, and so further complicates joint activity.

When a joint has been injured, no matter to what degree the structures are damaged, the keynote of recovery is the rate of absorption of effusion and the completeness of the absorption, and it is mainly upon these two factors that the question of the ultimate sequel to the injury depends. Incomplete recovery causes a degree of impairment, which may extend from a feeling of slight weakness in the joint and a sensation of untrustworthiness to limitation of movements to any extent. Even if the result of an injury falls mainly on one structure of a joint, prolonged rest may cause any or all of the other structures to become affected. It is chiefly from this fact that even a slight sprain, if rested for too long a period, may develop into a serious injury likely to produce secondary complications, which, for a long time and even permanently, may interfere with the perfect function of the joint.

The Value of Muscle Action

As rest physiologically tends to reduce the rate and amount of circulating blood and lymph through any part, while, on the other hand, the physiological changes called into play by muscular action promote a very active circulation of blood and lymph, not only to the muscles themselves, but to all the neighbouring tissues, I submit that muscle action, as a means of assisting the natural processes of repair after injury, has not received the attention it deserves. Muscle is a highly sensitive structure; with power instantly to respond to a variety of stimuli when in a state of health; when for any reason it loses its tone wasting follows rapidly. The loss of tone and the loss of power fully and rapidly to contract is of obvious importance to the security of a joint, and no joint can be considered to have recovered completely from injury to any of its structures until the tone and contractility of its musculature have been successfully restored to normal.

Although the restoration of muscle function is of such importance the muscle condition passes too often almost unnoticed, in spite of the fact that a joint may be crippled for long periods owing to the faulty nutrition of the other structures as the immediate result of atrophy of muscles and the mechanical disability. Even when a muscle is not obviously wasted, loss of tone alone produces a partial loss of function, and it becomes incapable of full contraction, its time rate of contraction becomes slower, and its efficiency to act synchronously with others in group action

is diminished; thus the joint upon which it acts has its balanced action altered and the nutrition of its structures interfered with. The muscles which oppose wasted ones also suffer and further upset the balance of the joint because of the loss of the normal pull of the wasted and atonic muscles, and in time they become shortened from contraction of their fibres and interstitial tissue.

The interference with "muscle sense" which occurs when muscles are wasted upsets the power of the latter to carry out co-ordinated movements, and in consequence joint structures have to submit to harmful stresses, which would normally be countered by muscles in a state of fitness.

Such imperfect recovery of muscles following sprains of joints is so often met with that it would appear to be due to a general misunderstanding of the importance of the muscle changes, and a want of comprehension of the serious late results of these changes on the other structures of the joint if repair and full recovery of muscle function are delayed or incomplete. As a consequence of these muscle changes many chronic sprained joints, particularly of the knee and shoulder, come to be looked upon by the patient as the natural end-result of an injury and to be expected, whereas the disability, which may be slight or serious, is due to mechanical unbalance, and is easily curable.

The physical and chemical phenomena coincident with the normal activity of muscles are essential to their efficiency and sensation of well-being, and to maintain muscle in a healthy state the regular normal fulfilment of the functions of the arterial, venous, and lymphatic circulations is essential; this is even more so when tissues are injured. The benefit derived from the physiological changes consequent on painless muscular action, produced either naturally or by the correct type of electrical stimulation, cannot be too strongly stressed, and if painless muscular movements are instituted as soon as possible after a sprain the distressing complications leading to a chronic sprained joint with all its pain and disability can be prevented.

Effects of Treatment by Muscle Stimulation

Briefly summarized the effects of the treatment of injured muscles and joints by correct electrical muscle stimulation, which produces graduated and controlled contractions and relaxation, are:

1. Muscle elasticity, irritability, contractility, and tonicity are rapidly restored to normal.
2. A great increase of blood to the muscles and to the neighbouring tissues is produced, with all the attendant beneficial consequences.
3. Waste tissue products are rapidly cleared away and stagnation of lymph, with all its serious sequelae, is prevented.
4. A large supply of oxygen and nourishment is brought to the damaged part.
5. Rapid absorption of fluid and extravasated blood is actively promoted.
6. Beneficial chemical and physical changes following muscle activity take place.
7. The movements of muscles and tendons do not allow organization of lymph between their surfaces, and adhesions are thus prevented.
8. As the movements prevent stagnation of lymph in the areolar tissue in the joint interspaces, the danger of the areolar tissue losing its suppleness, pliability, and flexibility is diminished.
9. If, in later stages, adhesions have formed, the adherent surfaces are gently but effectively torn apart, by causing increasingly powerful contractions of the muscles separately.
10. Muscles are prevented from losing their tone and from wasting; muscles already wasted increase in bulk.

It should be noted that a recently injured and painful muscle can still be made to contract and relax, and the

degree of the contractions and relaxations can be so controlled that the origin and insertion of the muscle need not be approximated until desired; consequently, the beneficial physiological changes called into activity by muscle action are produced with the minimal amount of strain of its fibres, and the movements of the injured joint as a whole can be kept within minimal range. If treatment is based on these principles no uncomplicated acute sprain should become a chronic one.

ARSENIC IN ITS RELATION TO THE KERATIN TISSUES

BY

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The keratin tissues, hair, nails, and skin, are of considerable importance in connexion with arsenic poisoning from a physiological as well as from a medico-legal point of view. In many of the published cases the presence and distribution of arsenic in these tissues has been of major significance in the investigation, and it seemed worth while, therefore, to obtain further experimental information on certain points concerning the effects of arsenic on the keratin tissues.

It is obvious that a knowledge of the mechanism of arsenic fixation in hair may give an important insight into the body's defence against the poison, and that examination of hair in certain cases of arsenical poisoning may be expected to yield information of great value. From the medico-legal aspect it would seem that the finding of arsenic in the hair would be strong evidence of its administration; but before the analyses may be so interpreted it is necessary to inquire into a number of other possibilities. For example, is it possible for hair to absorb arsenic from fluid bathing the shaft; or does any arsenic present necessarily come from the body fluids bathing the hair root? The importance of such a question may be illustrated by reference to one or two cases.

In the Seddon case the victim died about fourteen days after the first dose of arsenic, and this element was found not only in the proximal parts (3 mg. per 100 grams hair), but also in the distal parts of the hair (2 mg. per 100 grams hair), which was about twelve inches long. The presence of arsenic in the distal three inches raised the presumption that arsenic had been administered more than a year before death. Willcox suggested, however, that the arsenic in the distal ends might have been absorbed from the blood-stained body fluid which had come into contact with the hair, and by *in vitro* experiment proved that this explanation was possible. *Per contra*, in the Hearn case, the presence of arsenic in the hair of Miss Everard was interpreted as indicating the administration of arsenic over a considerable period, whereas it may well have been due to contamination from water which had soaked into the coffin after percolation through the arsenic-containing soil. Thus from similar facts we have opposite deductions made on behalf of the Crown, and both to the disadvantage of the accused.

It is well known that arsenic may be found in the hair after all traces of it have disappeared from other organs of the body, but it is desirable to ascertain whether the quantity found indicates a preferential absorption of

arsenic by the keratin tissues or merely a trapping of arsenic in the non-vascular tissues. It seems further of interest to ascertain whether, if there is preferential absorption, it is a function of living pre-keratin tissues or whether keratin itself absorbs arsenic preferentially *in vitro*. It is also desirable to know if this absorption is due to chemical combination between arsenic and certain products of cellular activity, or if it is a case of simple absorption. Other problems include those of ascertaining whether or not arsenic can travel along the hair shaft; whether it is possible to ascertain from the distribution of the poison if it has been absorbed from the body or if it has resulted from external contamination; and whether any inferences of value can be drawn from the amount and distribution of arsenic as to the time when a dose of arsenic was administered, and the size of the dose. We are still able to answer very few of these questions, and the present paper must be looked upon as a preliminary report.

Preferential Absorption

If we consider the results of a series of cases dealt with in the report of the Royal Commission on Arsenic Poisoning (1904) we find that the keratin tissues do take up more arsenic, weight for weight, than the other tissues of the body. For example, a number of individuals were given 5 mg. of arsenic per day for two months; on examination the hair of these men was found to contain from 2 to 5 mg. of arsenic per 100 grams of hair. The total quantity of arsenic taken by each individual was approximately 300 mg., and if this amount, without allowing for excretion (which would account for the greater part of it), be supposed to be equally distributed over the body the concentration would be about 0.5 mg. per 100 grams of body weight—that is, about one-tenth of the quantity actually found in the hair. Similar figures can be shown for the nails and to a lesser extent for the skin.

(A) BY HAIR REMOVED FROM THE BODY.

It is known, as has been mentioned, that hair soaked in an arsenical solution absorbs arsenic, but it is evidently desirable to place this observation on a quantitative basis and to ascertain whether, under such conditions, the hair can attain to, or surpass, the concentration of arsenic in the surrounding fluid. For this purpose a series of tubes were set up each containing 0.5 gram of hair or nail clippings and 10 c.cm. of a solution of sodium arsenite containing 0.01 mg. of arsenic per c.cm. The liquid was decanted from each at definite intervals, and an aliquot was analysed by the Marsh process. The hair in each case was removed and washed with six portions of water, and allowed to drain thoroughly after each washing. The organic matter was destroyed by the method of Wood-Smith¹ of boiling with equal parts of concentrated nitric and concentrated sulphuric acids. After complete removal of nitric acid the liquid was made up to a known volume, of which an aliquot was boiled with 0.5 gram of potassium metabisulphite to remove the last traces of nitric acid and reduce arsenate to arsenite. Arsenic was then determined by the electrolytic Marsh apparatus. The results of one typical experiment of the series are shown in Table I, where the density of human hair is taken as unity. Since, however, part of the absorbed arsenic might conceivably be due to swelling of the hair, a known weight of hair (0.3036 gram) was allowed to soak in water for seventy-two hours; at the end of this time it was removed and dried as thoroughly as possible with filter paper in the same way as the arsenic-containing hair (it still felt damp to the touch). The increase in weight was 0.0221 gram, or 7.3 per cent. When this hair was allowed to stand in

the balance case for half an hour the increase fell to 0.0040 gram, or 1.3 per cent. In other words, there was no simple imbibition of the fluid surrounding the hair, and the figures of Table I represent a true absorption of arsenic.

TABLE I

Length of Time of Soaking	Concentration of Arsenic in the Hair	Concentration of Arsenic Left in the Solution	Percentage of Arsenic Recovered
	mg. per c.cm.	mg. per c.cm.	
0 hours	0.00	0.010	
20 "	0.024	0.009	102
44 "	0.03	0.008	95
118 "	0.05	0.007	95
145 "	0.05	0.008	105
234 "	0.05	0.007	95

It is to be observed that the hair absorbs arsenic in increasing amounts, gradually attaining a concentration of arsenic about seven times that of the surrounding solution. Evidently, too, the final concentration is greater than the usual figure hitherto reported; it is unaltered by increasing the time of soaking above seventy-two hours; and generally, it is not increased when the hair is soaked in a stronger solution of arsenite. In the cases given in the Royal Commission Report, the level of arsenic in the hair runs fairly uniformly at about 2 to 3 mg. per 100. grams hair, not only in those cases where small doses have been given over a long period but also in those where the hair has been examined long periods after a single dose.

TABLE II

Quoted by	Reference	Mg. Arsenic per 100. grams Hair	Notes
Casper-Lilman	<i>Gericht Med.</i> , 8th ed., ii, 373	2.0	—
Bruardel ...	<i>Ann. d'Hyg.</i> , 1899, xxii, 137	1.0 2.5	Subacute
Knecht and Deardin	<i>Lancet</i> , 1901, i, 854	1.0 3.0 3.0	Chronic
Heffter ...	<i>Arch. Inter. Pharm.</i> , 1905, xv, 399	1.0	59th day after one dose of about 1 gram
Althausen and Gunther	<i>Journ. Amer. Med. Assoc.</i> , 1929, 2002	1.5 2.7 1.8 (beard)	2.5 months after a single dose 3.5 " " 3.5 " "
Royal Commission Report on Arsenical Poisoning, 1904, 356		3.0 3.0 3.0 1.85 1.5 1.5 0.75 0.75 0.30	2 months after dose " " " " " " " " " " " " " " " "
Bannister ...	<i>British Medical Journal</i> , 1920, ii, 476	5.0	4 days after inhalation of arsine
Seddon case...	—	Proximal—3.0 Distal —0.2	Probably 13 days from the first dose
Armstrong case	—	0.45	Probably 8 days from the first dose
Hearn case: Mrs. Thomas	—	0.7	17 days after the first dose
Miss Everard	—	1.5 in. from scalp—2.3 1.5 in. " middle—1.5 1.5 in. " distal—1.0	Suggested 7 months from the first dose

In all the published cases of arsenic poisoning in which the hair has been analysed the level of arsenic concentration runs about the same figure. (Table II.)

(B) BY NAILS REMOVED FROM THE BODY

In the case of nails the original weight of 0.330 gram increased by 38.2 per cent. after 144 hours' soaking. After standing three hours in the balance case, this increase

was reduced to 17.6 per cent. Before soaking in arsenic solution the nails were scraped as free as possible from adhering skin, and before analysis the liquid was removed by filtration and thorough washing with distilled water. Results obtained are shown in Table III, where the density of human nail is taken to be 1.2. The last column represents the concentration of arsenic in the nails corrected for uptake of the medium on the assumption that 0.5 gram of nail takes up 0.19 c.cm. of the solution (that is, 0.0019 mg. of arsenic and 38 per cent. of its volume of the solution).

TABLE III

Length of Time of Soaking	Concentration of Arsenic in the Nails	Concentration of Arsenic Left in the Solution	Percentage of Arsenic Recovered	Concentration of Arsenic in the Nails (corr.)
	mg. per c.cm.	mg. per c.cm.		mg. per c.cm.
0 hours	0.000	0.010	—	0.000
67 "	0.084	0.007	105	0.079
93 "	0.084	0.006	95	0.079
116 "	0.107	0.007	115	0.103
188 "	0.192	0.0018	98	0.185

It is a remarkable fact that nails in arsenical solution can take up arsenic to a concentration of about 100 times the final concentration of the surrounding solution, and in our experiments had not even then reached the maximum.

Evidently both nails and hair removed from the body and soaked in a solution containing arsenic (as sodium arsenite) can absorb that element until the concentration is far in excess of that of the surrounding medium. In other words, they exhibit preferential absorption. That this absorption is not merely a case of surface adsorption is shown by the fact that when hair is soaked in sodium arsenite solution, as in the above experiments, none of the arsenic is removed by thorough washing with dilute caustic soda before analysis. The importance of this observation can hardly be exaggerated, for it has been customary to consider a higher concentration of arsenic in the keratin tissues than in the viscera as proof that the arsenic was absorbed by those tissues during life; that assumption is proved to be false.

Absorption from the Living Body

Under the conditions of our experiments the arsenic is evenly distributed along the length of the hair, but if arsenic is being absorbed into growing hair or nails from living body fluids, a different distribution is to be expected. At first arsenic should be found only in the proximal end. As the hair grows either an arsenic-containing band grows with it (in the case of the poison being administered over a short period) and is followed by an arsenic-free proximal zone, or, in the case of long-continued administration or continued presence of arsenic in the blood owing to slow excretion, more and more of the hair contains arsenic until, eventually, through cutting or falling, the distribution becomes uniform.

In the majority of cases of poisoning one would expect to find more arsenic in the proximal end of the hair than in the distal, but, of course, for a variety of reasons, this distribution is not absolute. For one thing, the relative lengths of the arsenic-containing and arsenic-free parts will vary from case to case with the time of administration of the poison, the rate and amount of excretion in the vomitus, urine, and faeces, the rate of growth of the hair, and the time and frequency of hair-cutting. Moreover, as Willcox has pointed out, "sweat and sebaceous secretion contain arsenic, and as the whole length of the hair comes in contact with these secretions, the limitation of arsenic to the proximal portions of the hair is relative,

not absolute." However, in cases of absorption *in vivo* some such distribution may generally be expected, and the finding of more arsenic in the proximal parts than in the distal is strong evidence that the arsenic has been absorbed from body fluids—*provided it can be shown that no external contamination can account for it.* The expectation of a non-uniform distribution of arsenic in hair is in any case dependent on the supposition that the arsenic, once absorbed into the hair, remains fixed and can neither travel along the shaft nor be reabsorbed by the body, and experiments to justify this supposition have hitherto been lacking.

Methods of Absorption Determined

The following experiments were carried out *in vitro* to determine whether or not arsenic is capable of travelling along a hair fibre. A lock of human hair about 10 cm. long was placed so that the cut ends dipped to the extent of about 4 cm. into a solution of sodium arsenite containing 0.1 mg. of arsenic per c.cm. This solution was contained in a test tube and the hair was arranged round a tightly fitting cork so that 5 cm. of it was completely out of contact with the fluid. Within twenty-four hours it was observed that the hair above the stopper was damp for a length of 2 cm. It was allowed to stand thus for three weeks, and at the end of that period the hair projecting above the stopper was divided into five sections, and these were analysed without previous washing. The results of the analyses are shown in Table IV.

TABLE IV

Weight of the Section	Total Amount of Arsenic Present	Notes
0.144 gram	0.5 mg.	Section nearest the solution. Very wet
0.122 "	0.15 mg.	Hair damp
0.101 "	Trace	Slightly moist in one part
0.100 "	Nil	Hair quite dry
0.067 "	Nil	Section farthest from the solution. Dry

Two important points emerge from these results. First, the hair not immersed in the liquid but wetted with it by capillary action actually contains more arsenic than the hair in contact with the solution. This is due to evaporation of the arsenical fluid on the hair fibre. Secondly, local contamination at the proximal end has resulted in that gradual distribution which is to be expected if absorption takes place from the body fluids. But it is evident that it may equally occur after death if by any chance the hair is soaked in an arsenical solution at the proximal end only.

In order to prevent the solution travelling up the outside of the fibre, the experiments were repeated with a thin layer of paraffin wax laid round the top of the cork. The hair was allowed to stand for three weeks in a solution containing 0.1 mg. of arsenic per c.cm. No moisture was visible outside the tube and the volume of the solution did not apparently diminish; 3 cm. of the hair (weighing 0.164 gram) nearest the liquid contained no arsenic.

The experiments indicate beyond doubt that local wetting of the hair shaft with arsenite solution causes arsenic to be absorbed over a length of hair by "creeping" of the solution and absorption from outside. They show equally definitely that travel of the arsenic along the inside of the fibres does not take place, and that, therefore, the graduated distribution of arsenic is legitimately to be attributed to *in vivo* absorption only if contamination from some external liquid source can definitely be excluded.

Reabsorption by the Body

They also suggest that arsenic once deposited in hair or nails is finally lost to the body—a suggestion which is *a priori* indicated by the fact that hair shafts, the keratin layers of epidermis, and so on, are really dead tissues, and are, indeed, excretions. However, there appears to be a division of opinion on the subject, for whereas Willcox states that "it is probable that during the prolonged administration of arsenic a certain amount becomes deposited in the skin, hair, and nails, and this is gradually reabsorbed, being excreted by the urine and faeces," Althausen and Gunther,² on the basis of a study of excretion of arsenic before and after treatment with sodium thiosulphate, have shown that arsenic is not reabsorbed from the hair.

In our early experiments the fact that we were able to rinse arsenic-soaked hair several times with water and even with dilute caustic soda without appreciable loss of arsenic suggested that reabsorption of arsenic from hair to the living body was at any rate a slow and difficult process. Quantitative experiments on this point, however, showed that arsenic-soaked hair containing the maximum of 5 mg. per 100 grams could lose part of the arsenic after prolonged soaking in distilled water. After fifteen days' soaking in this manner, the water being changed every twenty-four hours, about 40 per cent. of the arsenic had been removed. Further soaking would not remove the other 60 per cent. Furthermore, it was found that the arsenic could not be removed to any appreciable extent from the hair of a person who had been receiving arsenical injections. This suggests a method of differentiating between arsenic absorbed *in vivo* and arsenic derived from some external source of contamination.

Summary

It has been shown that keratin tissues when soaked in arsenical solution exhibit the phenomenon of preferential absorption. The arsenic so absorbed can be partly removed by very prolonged soaking in distilled water, but rapid rinsing either with water or dilute alkali does not affect the arsenic content in any marked degree. By this method the maximum arsenic content of hair is found to be 5 mg. per 100 grams, and much higher values can be obtained in the case of nails. *In vitro* experiments have shown that arsenic can travel along a hair fibre only if "creeping" of the solution along the outside of the hair be possible. It has been demonstrated that arsenic absorbed into hair *in vivo* cannot be removed by prolonged soaking, and this fact is tentatively put forward as a basis for a method of distinguishing between arsenic absorbed *in vivo* and arsenic resulting from external contamination.

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- ¹ Wood-Smith: Royal Commission Report (1904), ii, 351.
- ² Althausen and Gunther: *Journ. Amer. Med. Assoc.*, 1929, 2002.

The *Transactions* of the Twentieth Annual Conference of the National Association for the Prevention of Tuberculosis have now been published. This conference was held last June, and was reported at the time in these columns. It was largely concerned with reviewing the progress made in the twenty-one years of the life of the National Association, and this volume of *Transactions* has consequently a definite historical interest. The National tuberculosis scheme is discussed from various points of view, and a comprehensive survey of the present position is thus given. The main trends in further development are indicated.

FATAL PERFORATION OF THE CAECUM
IN A CASE OF SPRUE

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Cases of perforation of the intestine in sprue are extremely rare, and those so far reported have been associated with ulcers in the small bowel. Faber (1904) reported a case of death from peritonitis following rupture of an ulcer in the small intestine. At necropsy sixteen small ulcers were found at various parts of the lesser bowel, but the large intestine was free. Fischer and von Hecker (1922) reported several small ulcers in the lower jejunum and ileum, and Mackie and Fairley (1929) described a superficial healing ulcer in one of their cases about half an inch in diameter, located two inches above the ileo-caecal valve. In two cases reported by Manson-Bahr (1924) perforation had occurred. One of these—a case of ten months' duration—showed a large ulcer in the ileum six feet from the ileo-caecal valve opposite the mesenteric attachment; it measured one inch in diameter, and had perforated in two places, producing a fatal peritonitis. In the other case twelve ulcers varying in size from 0.5 to 1 c.cm. were found in the ileum, the mucosa of which was acutely inflamed. One small ulcer 3 mm. in diameter was found in the upper part of the jejunum; multiple perforations had resulted in peritonitis and death. The present case is of special interest because no evidence of ulcers in the small or large bowel was found at necropsy, and the perforation involved the caecum. An epitomized history is recorded below.

Case Record

Mrs. S., aged 58 years, was admitted to the Hospital for Tropical Diseases on February 28th, 1934, seriously ill with tropical sprue.

Past History.—Born in England, she had gone to India in 1900, and had remained there until 1926, since when she had not been out of this country. There was a history of malaria in 1901, and of dysentery, without recurrence, in 1902.

Recent History.—The onset of the immediate trouble occurred in September, 1925, when the patient began to have large, pale, frothy stools and flatulence, having lost much weight. These symptoms persisted, and she returned to England in March, 1926. The tongue was then sore with ulcers and fissures; and intestinal symptoms were marked. In 1927 she received three months' treatment with milk diet and temporarily improved. Then in November, 1930, she became definitely worse, receiving treatment including injections of liver extract over a period of six months without any great

benefit; subsequently she returned home, improving up to a certain point. By June, 1933, she had begun to lose weight; the stools were bad, flatulence marked, and the tongue sore; in July an anal fissure developed. Since Christmas vomiting occurred infrequently and she had lost 3 stone 9 lb. in weight. Attacks of tetany had also been present for a considerable period, the last being about a fortnight before admission. The stools were pale, sometimes formed and sometimes fluid; flatulence was severe, and she could not retain solid food, vomiting it almost immediately.

Physical Examination (February 28th).—Inspection revealed a thin, elderly, much emaciated woman with pale mucous membranes and conjunctivae. She was edentulous; the tongue was smooth and pale with hyperaemic edges. She was very weak on admission, and a grave prognosis was given. There was an apical systolic murmur, but no cardiac enlargement, and the breath sounds, though harsh, were normal. Abdominal distension was present, the muscles were atonic and wasted, and peristaltic movements were visible through the thinned abdominal parietes. Some tenderness was noted on deep pressure over the appendix area. An anal fissure was found on the posterior aspect of the sphincter, and above this the rectum felt ballooned.

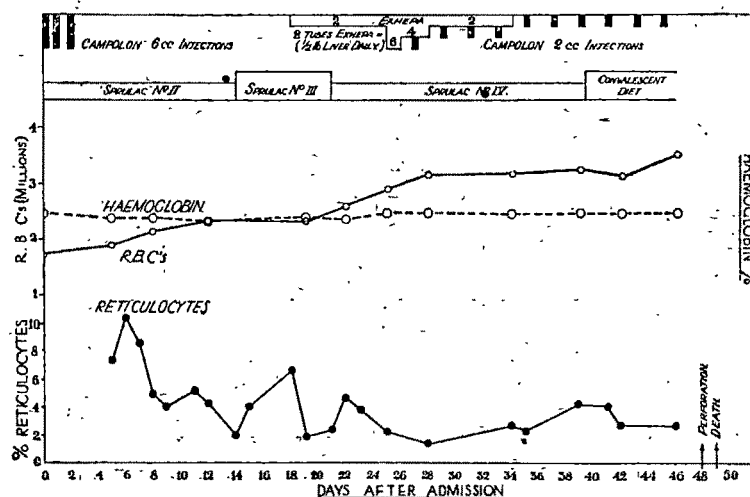
Laboratory Records

(March 1st).—Red blood counts, 1,700,000 per c.mm.; haemoglobin, 50 per cent. (Haldane); colour index, 1.3; average diameter of corpuscle, 8.6 μ (halometer). The blood picture was typical of megalocytic anaemia; megalocytes were numerous; anisocytosis and poikilocytosis were marked; normoblasts were scanty. Biochemical examinations were postponed until March 5th, when the serum calcium was 8.7 mg. per 100 c.cm., the

serum phosphorus 2.5 mg. per 100 c.cm.; and the glucose tolerance curve showed a maximal rise of 54 mg. per 100 c.cm. one and a half hours after the administration of 50 grams of glucose.

Progress Notes.—The case ran an apyrexial course with normal pulse rate and respirations until the terminal crisis with sudden perforation and peritonitis. A high protein, low fat, low carbohydrate dietary in the form of "sprulac" introduced by Fairley in 1932 was used, and initially three injections of campolon (each 6 c.cm.) were given; a sub-maximal reticulocytosis of 10.4 per cent. (see Graph) occurred on the sixth day, and subsequently fluctuations in the counts occurred throughout the course of the disease, the percentage, however, always remaining above the normal. Though there was improvement in the alimentary features of the case, looseness of the bowels persisted, and there was but little gain in weight; though the red corpuscles showed some increase in numbers the haemoglobin percentage remained stationary (see Graph). Analysis of the stools on March 16th showed: total fat, 19.2 per cent.; neutral fat, 2.6 per cent.; fatty acids, 16.6 per cent.

On March 19th the patient was put on two tubes of "exhepa" daily (equivalent to $\frac{1}{2}$ l. whole liver), and this later was increased; daily injections of campolon (2 c.cm.) were also given, as indicated in the Graph. Again an appreciable increase in the red cells occurred, but the haemoglobin showed no improvement. A convalescent mixed diet was allowed on April 9th, and though the patient was troubled with flatulence she put on 2 lb. in weight, and progressed satisfactorily during the next week. The red cells also increased, and on April 16th the count showed red blood cells, 3,585,000 per c.mm.; haemoglobin, 50 per cent.; colour index, 0.7; average diameter of corpuscle, 8 μ ; megalocytes, microcytes, anisocytosis, and poikilocytosis still present.



Haematological response in a case of tropical sprue dying from perforation of the caecum with peritonitis.

On April 18th, at 5.15 p.m., the patient complained of a sudden severe abdominal pain, and vomited copiously. She was in great pain, lying with the knees drawn up, and exhibited a greyish pallor and drawn facies. The abdomen was very distended, definitely rigid, and pressure increased the pain. Perforation with peritonitis was diagnosed, and Mr. A. H. McIndoe did an immediate laparotomy.

Operation.—There was a gush of gas and faecal fluid when the peritoneum was incised, a diffuse generalized peritonitis with ileus being found. A small circular hole about 1.5 cm. in diameter was found posteriorly, situated at the junction of a mobile caecum and ascending colon some two and a half inches above the base of the appendix. The bowel wall was very thin in the vicinity, but no ulcer or growth was palpated.

Necropsy.—The caecum and adjacent ascending colon were distended and thinned, and a circular hole was found in the bowel as indicated above. There was no induration or thickening around the perforation, and no signs of surrounding inflammation suggesting that perforation had occurred at the site of a former ulcer. A vein draining the area was thrombosed. Further details of the necropsy will be published separately later.

Comment

Though the patient had definitely improved as a result of treatment and the red corpuscles had increased by 1,885,000 per c.mm., the haemoglobin failed to increase in the way the vast majority of sprue cases do. The patient, as already stated, was very weak on admission, and it appears probable that venous thrombosis in a thinned and over-distended bowel led to sudden bursting of a devitalized area of the caecal wall. In the light of subsequent happenings it would probably have been better if the convalescent diet had been of higher protein and lower carbohydrate composition. Iron therapy was withheld for fear of irritating the bowel and increasing the diarrhoea.

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The Christchurch Hospital, New Zealand, publishes a review of the work of the radium and deep therapy departments between 1924 and 1934, which has been compiled by Dr. P. Clennell Fenwick, F.R.C.S.Ed., who is in charge of the departments in question. In his introductory note he states that "during the last nine years every request for additional equipment has been granted at once, and we are now so well equipped that we are able to carry out the same methods of treatment that are in use in Europe and in America." In May, 1930, a special consultation clinic was organized, which meets weekly and is composed of all members of the honorary and departmental staff. Each patient is examined by the members, and re-examinations are made at regular intervals. Carefully worked out recording and "follow-up" systems are in routine use. The consultation clinic has been found to be especially useful in the case of persons who ask for examination under the impression that they have cancer; and the united assurance of an expert committee that such is not the case has done much not only to render the persons happier but to encourage people to come for advice. Since 1930 the clinic has examined 785 new patients, while the total attendances for examination and re-examination have been 2,004. Brief descriptions are given of the methods of treatment employed, together with summaries of the results obtained. There are also useful notes of the after-care of cancer patients and upon the mental aspect in carcinoma. A useful series of precautions to be observed in treatment appears at the close of the report.

Clinical Memoranda

TORSION OF HYDATID OF MORGAGNI SIMULATING ACUTE APPENDICITIS

The following case seems to merit report as illustrating one of the more uncommon conditions which may present the clinical picture of acute appendicitis.

A well-developed girl of 16 years was seen about five hours after the onset of abdominal pain, at first generalized, but later localized in the right iliac fossa, accompanied by vomiting. Temperature, 99°; pulse, 96. There was diminution of abdominal movement, some rigidity in the lower right quadrant, and tenderness just below McBurney's point. A fairly definite diagnosis of acute appendicitis was made. An hour later the abdomen was opened by Davis's incision: a considerable amount of sero-sanguineous fluid escaped from the abdomen. The appendix, which showed injection of its peritoneal coat, was removed. As the condition of the appendix seemed incompatible with such an amount of bloody fluid the pelvis was explored. The right ovary was polycystic. The uterus and left appendages were in all respects normal. The two right hydatids of Morgagni were larger than normal, and presented pedicles about 1.5 cm. long: the uppermost one resembled a ripe cherry in size and appearance. It was tense, and its pedicle was twisted on itself through 1½ turns in a counter-clockwise direction. The pedicle was ligated and the strangulated hydatid removed. The other hydatid was also removed, as the occurrence of a similar mishap seemed not unlikely in view of the abnormal length of its pedicle. A wedge-resection of the right ovary was done. The abdomen was closed without drainage. Convalescence was uneventful.

The points of interest in this case are: (1) the accurate simulation of acute appendicitis, and (2) the large amount of fluid poured out in six hours from a small strangulation.

Galway. E. N. MACDERMOTT, B.Sc., M.D., F.R.C.S.I.

MYOIDEMA

Myoidema is a physical sign which seems to have been almost forgotten, as it is not mentioned in some of the recent textbooks of medicine, and is not known to the younger generation of doctors. It is a localized contraction of wasting muscle, produced by a sharp tap, and is most often seen in cases of pulmonary tuberculosis. It is readily obtained by striking the pectoralis over the second and third ribs with the end of the middle finger, as if percussing rather forcibly. In all cases where the tuberculosis is active a small lump of muscle will at once arise at the stricken point and quickly disappear. It may be seen in other diseases where there is loss of flesh with febrile temperature. One condition is, so far as I know, peculiar to pulmonary tuberculosis, and that is, the presence of myoidema on one side of the chest only; this happens when there is active disease at one apex, and that slight. In the more advanced cases there is often a difference on the two sides as to the readiness of myoidema to appear, the more ready contraction being produced on the more diseased side. In acute cases it can be got in every muscle of the body. A very fair estimate of the rate of progress of the disease at the time is given by this phenomenon—the more readily it is produced the more acute the case, and, if it cannot be obtained, the tuberculosis is quiescent.

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Reviews

THE CLINICAL SIGNIFICANCE OF THE ELECTROCARDIOGRAM

Experimental researches and clinical studies during the past five years have enlarged and, to some extent, modified the clinical significance of the electrocardiogram. The new (third) edition of Dr. HAROLD PARDEE'S *Clinical Aspects of the Electrocardiogram*¹ presents a full and balanced picture of modern conceptions. Earlier chapters are devoted to the common abnormalities and a consideration of the limits of the normal. It is customary at the present time to regard an electrocardiogram as normal when it shows none of the irregularities of rhythm or complex which are known to denote functional or pathological changes in the heart. It cannot be doubted that the great mass of normal electrocardiograms contain groups of less obvious deformities, perhaps representing pathological changes, but more likely related to dysfunction of endocrine and metabolic mechanisms in or controlling the heart. These have yet to be differentiated, and may constitute some of the new matter that will appear in further editions of Dr. Pardee's monograph.

In the present volume the new knowledge of localization of myocardial damage, bundle-branch block, and premature contractions is discussed and the modern views justified. There have been those who have discounted the value of instrumental methods in clinical medicine; it has been assumed by some that electrocardiography is employed as a short cut to prognosis. No orthodox physician would make such a contention, and Dr. Pardee has epitomized the matter as follows: "The only thing that can be discussed about the prognostic importance of the electrocardiogram is the part which it may contribute to the prognosis"—namely, by indicating the extent of the structural changes in the myocardium. The volume contains seventy-four illustrations, the reproductions of electrocardiograms being adequate, but not outstandingly good. The text is full and readable, its authority is unquestionable, and the monograph will prove highly valuable to clinicians, and particularly to cardiologists.

INFANTILE ECZEMA

That baffling disease, eczema of infancy, is the subject of an interesting monograph,² by Dr. PÉHU and Dr. AULAGNIER, both of Lyons. Although for long the subject of intensive study, it cannot be said that much is yet known either as to its real nature or that the treatment of the condition is in any way satisfactory. The authors have recapitulated thoroughly enough the various views held on the vexed questions associated with the subject, including its aetiology, and finally side themselves with those who are content to explain so many things by the employment of the blessed word "allergy." The exact signification of this very popular term still remains obscure. According to some it is merely a synonym for general hypersensitiveness to environment, while others limit it to the liability to the production of toxic symptoms from the action of various proteins. In the case of infantile eczema most authors lay the blame on different articles of diet, especially upon milk, the staple food of infancy, but some indict the egg albumen consumed by the mother during the pre-natal life of the patient. At one time it was thought that eczema seldom

or never occurred in breast-fed infants, but it seems that the incidence of the complaint is almost the same in these as in those who are bottle babies. In any case it is never wise to wean prematurely a breast-fed baby with the idea of benefiting the eczema. Toxins produced in the alimentary canal have also often been cited as an aetiological factor, but well-nourished infants with no symptoms of digestive trouble are usually much better if their alimentary systems are allowed to remain undisturbed by unnecessary medicines.

Our authors in their discussion of the important but difficult subject of treatment relegate local measures to a secondary place, but they are sufficiently wise to warn against the employment of any irritating application, which is only too prone to cause an exacerbation of the condition. Their primary object in treatment is to remove the allergic susceptibility of the patient, and for this purpose they find that the best method is the employment of vaccino-therapy in the shape of injections of an enterococcic vaccine. They appear not to aim at a specific desensitization, but at an alteration of the reactive tendencies of the patient—an object very much akin to the purpose proposed by the advocates of "protein shock." Among other matters, the authors devote considerable space to the discussion of sudden death in infantile eczema—that is to say, death occurring within a few hours in an infant previously healthy except for the presence of the eczematous eruption, and in which post-mortem examination discloses no sufficient cause. These tragedies, fortunately rare, they regard as examples of anaphylactic shock, supporting their contention by a comparison of the microscopic changes found in the central nervous system in such cases with those found in animals which have been the subjects of experimental anaphylaxis. It is a singular thing that these cases, rare enough in France, seem practically unknown in this country; we cannot remember one being published for many years. In conclusion we may say that this monograph is worthy of perusal by all dermatologists and paediatrists.

SEXUAL AND REPRODUCTIVE PHYSIOLOGY

Among the branches of medical science in which new knowledge is so rapidly multiplying few, if any, have been so prolific in hypotheses and potentialities as endocrinology, and in particular the *Recent Advances in Sex and Reproductive Physiology*,³ on which Dr. J. M. ROBSON of the active Institute of Genetics of the University of Edinburgh has provided a comprehensive summary. This review is obviously valuable at a time when published researches are constantly appearing, sometimes discordant and even confusing from the introduction of new names for the same hormone. The endocrine interdependence is complicated, and even now it is difficult to decide whether all the described hormones have a separate existence or whether the different reactions reported are due to variations in the conditions present in the reacting tissues.

As is well known, Zondek described two gonadotropic hormones, prolan A and prolan B, manufactured in the anterior lobe of the pituitary, and probably by the basophil cells, which control the hormone activities of the ovary. Subsequently Wiesner of the Edinburgh Institute of Genetics set forth a similar scheme under the name of the Rho factors. That the anterior pituitary provides a gonadotropic hormone there appears to be general agreement, but considerable doubt has been expressed, for example, by Collip and Dodds, about the separate exist-

¹ *Clinical Aspects of the Electrocardiogram, including the Cardiac Arrhythmias.* By Harold E. B. Pardee, M.D. Third edition, revised. New York: Paul B. Hoeber, Inc. 1933. (Pp. 295; 74 figures. 5.50 dollars.)

² *L'Eczéma du Nourisson.* Par Dr. M. Péhu et Dr. R. Aulagnier. Paris: Gauthier-Villars. 1934. (Pp. 174. 25 fr.)

³ *Recent Advances in Sex and Reproductive Physiology.* By J. M. Robson, M.D., B.Sc. With an Introduction by Professor F. A. E. Crew, M.D., D.Sc. London: J. and A. Churchill. 1934. (Pp. ix + 249; 47 figures. 12s. 6d.)

ence of two—prolan A and B. Dr. Robson, who gives a wide review of the whole subject, concludes, from the evidence of different types of urine and of various pituitary preparations, that there apparently are two gonadotropic hormones. Another disputed point is whether or not there is a definite increase of eosinophil or other kind of cells in the anterior pituitary in pregnancy; the author quotes an observation to the effect that there is a preponderance of acidophil cells; but it may be noted that Rasmussen, from a long series of histological examinations, does not recognize the existence of what have been called the pregnancy cells.

The question of a gonadotropic hormone secreted by the human placenta is discussed and left open. Although there are admittedly some reasons for the suggestion that the foetus produces a hormone influencing the course of pregnancy, the author concludes that there is not any convincing proof of this.

ULTRA-VIOLET THERAPY IN EYE DISEASE

For some years there has been a physico-therapeutic department at Moorfields Eye Hospital—recently under the charge of Mr. Frank Law, who has compiled a review of the action of this and other forms of radiant energy under the title of *Ultra-Violet Therapy in Eye Disease*.⁴ Full details of the type of radiant energy employed are dealt with in an introductory chapter. Ultra-violet light is used in treatment of disease of the eye in two ways: in general phototherapy, as a means of increasing the patient's general resistance and recuperative power; and in local phototherapy, by virtue of its local biological action upon the tissues. The potency of such light in its effect on the eye was shown by Birch-Hirschfeld and Duke-Elder. There was a definite abiotic reaction following exposure to the short unfiltered ultra-violet rays. The cornea swelled in all its parts, there was a cellular infiltration, and, if severe, the lesion might extend to the production of opacity. The lens might be similarly damaged, even to a tendency to the formation of cataract. There is also some evidence that the retina may suffer injury, and it is obvious that unskilled use of these rays may be highly injurious to the sight. In Mr. Law's work some 225 cases come under review, mainly those treated in 1932, and special pains were taken to secure a proper follow-up. The largest number of cases comprised those commonly associated with the appearance of phlyctenulæ either on the conjunctiva or on the cornea. In weighing the value of the results Mr. Law confesses himself less enthusiastic than previous workers. He points out that besides the use of the rays there are other factors in the treatment—the cleansing of the eye by a skilled nursing staff, and, not least, the mere exposure to the air of the bodies of children, and the removal of clothes that are often actually sewn on! Nevertheless, he is convinced that there is a benefit derived in cases of blepharitis, phlyctenular disease, and conjunctivitis in children; diseases that are due to bad condition, debility, lack of nourishment, or even lack of cleanliness. This finding is strengthened by the observation that poor results were achieved in such cases, as syphilitic iridocyclitis and tuberculous disease. General phototherapy is an adjunct in treatment—in many cases a useful adjunct—so that the sooner it is begun the better the chance of performing its part in expediting recovery. There is a section on the use of radium. The types of rays and the means of control adopted at the Radium Institute are described. It is held that the claims made for the therapeutic value

of radium in ophthalmic conditions, especially in America, are too diverse and too enthusiastic, but that it is of proved value in the treatment of epibulbar and orbital neoplasms, as also in the treatment of spring catarrh. There are no indications that it will supersede present methods of treatment of trachoma and senile cataract. The book includes also a chapter on the therapeutic use of x rays, wherein, on balance, the dangers seem to outweigh the advantages; and a chapter on the use of infra-red rays, which serve no therapeutic purpose in ophthalmology, and, in fact, offer definite dangers.

ACUTE AURAL INFECTIONS

In *Acute Otitis and Mastoiditis in General Practice*⁵ Mr. N. ASHERSON has made a determined attempt to produce a book which may help the practitioner, faced as he often is by the puzzling phenomena occurring in acute inflammatory conditions of the ear. Had the author been able to convey to his readers in clear, concise language the fruits of his experience, which is evidently wide, he might truly have been very helpful. Quite early in the book, however, in giving directions to the practitioner for so simple a matter as syringing, he says, "The nozzle of the syringe is inserted *into* and along the floor of the meatus," the italics being the author's. If this be the method which a practitioner should adopt perhaps it explains why many patients still prefer to visit an aural surgeon when the ears require syringing. Again, we read: "The tip of the mastoid process is subcutaneous, and its anterior, lateral, and posterior parts are palpable, but the actual tip itself is buried in the uppermost fibres of the sternomastoid muscle." Such loose writing makes every sentence suspect, and there is hardly a page on which some obscurity or ambiguity is not to be found. On page 160 it is stated that after an operation for acute mastoid the average period before the patient is fit for normal routine is six weeks, and on page 276 the average period is given as three months. When he reads that the mastoid antrum holds only a drachm of pus at the most the reader will wonder what the author really means. Spelling mistakes are not infrequent, but perhaps "Wylde's" incision conceals a delicate gesture which the father of Oscar would not have appreciated. If the author had submitted his book to independent and drastic revision good use could have been made of his excellent material.

BLOOD LYMPH AND IMMUNITY

Investigations of normal and pathological body processes are apt to be made in different institutions and published in different journals. It is therefore a great help to workers in both fields if a summary of the present state of knowledge in both directions is collected in one volume. This is attempted in the *Treatise on Physiology, Normal and Pathological*,⁶ edited by Professors ROGER and BINET. The second edition of the volume of this treatise, which deals with blood lymph and immunity reactions, has recently appeared. The 730 pages cover a very wide range, including, for example, the chemical constituents of the blood, blood transfusion, and immunity reactions.

The book is divided into sections on various subjects by different authors. These sections are of very unequal quality. That dealing with the chemical constituents of the blood (Professor Laudet) is concise and nearly as

⁴ *Ultra-Violet Therapy in Eye Disease. With a Review of the Action of Other Forms of Radiant Energy.* By Frank W. Law, M.A., M.D., B.Chir., F.R.C.S. Foreword by Sir Stewart Duke-Elder, M.A., D.Sc., M.D., Ph.D., F.R.C.S. London: John Murray. 1934. (Pp. 78. 5s. net.)

⁵ *Acute Otitis and Mastoiditis in General Practice. A Manual for Practitioners and Students.* By N. Asherson, M.A., M.B., B.S., F.R.C.S. London: H. K. Lewis and Co. Ltd. 1934. (Pp. 317; 97 figures, 12 in colour. 10s. 6d. net.)

⁶ *Traité de Physiologie, normale et pathologique.* Tome vii, *Sang et Lymph Reactions d'Immunité.* Publié sous la direction de Professeur G. H. Roger et Professeur Léon Binet. Deuxième édition. By various authors. Paris: Masson et Cie. 1934. (Pp. 730; illustrated. Broché 100 fr., relié 120 fr.)

complete as is possible in sixty-eight pages, although practically nothing is said about the reaction of the blood. There is a thorough discussion of the coagulation of the blood by Professor Zunz. On the other hand, Professor Achard gives a vague and verbose discussion of theories of oedema, in which he does not appear to distinguish between osmotic pressure and hydration of proteins. Had he cleared his ideas and included more of the known facts (as, for example, those of Moore and van Slyke bearing on the relation of oedema to plasma proteins) he could have presented far more information in fewer pages. The single page given to the pathological physiology of blood platelets is most inadequate. Anaemias and leukaemias are not included. The section on respiratory pigments in invertebrates is very brief, while that on coagulation of the blood in invertebrates occupies less than a full page. The section on immunity, by Professor Bordet, is masterly, as far as it goes, but makes little mention of the great volume of work carried out in the last ten or so years. It entirely omits the work done by Landsteiner's school on the relation of specificity to chemical structure. In the section on anaphylaxis, by Professor Besredka, considerable attention is paid to the practical aspects of the subject. This is all to the good, for it maintains interest and counteracts a too academic outlook. But it appears inadvisable in a work of this nature to include a purely practical section on blood transfusion, particularly at the expense of other important matter.

In such a treatise full references are essential in order that the reader may be able to form his own opinion on the work which the author quotes and to look up details that the author has omitted. No references are given in some sections; in others the bibliography is most incomplete. In all the sections little work is quoted except that published in French journals. There is no index.

Notes on Books

An Introduction to Pharmacology and Therapeutics, by Professor J. A. GUNN, was first published in 1929, but has already reached a fourth edition. The continued demand for this book is proof that there is a widely felt need for some short and simple exposition of the scientific facts which form the basis of rational therapy. The author modestly attributes the success of his book to a revival of interest in the treatment of disease, but its popularity is chiefly due to the fact that, while it is concise, it is also readable and accurate.

An Introduction to Pharmacology and Therapeutics. By J. A. Gunn, M.A., M.D. Fourth edition. London: H. Milford, Oxford University Press. 1934. (Pp. 237. 5s. net.)

Mufrell's handbook *What to Do in Cases of Poisoning*⁸ has now reached its fourteenth edition, and for the last three Dr. PHILIP HAMILL has been responsible. The edition under review has been carefully revised, and many new poisons have been added. We find, for example, accounts of dinitrophenol intoxication, the use of strychnine in barbiturate poisoning, and antimony poisoning from enamel-ware glaze. The long-continued popularity of this pocket volume is the best proof of its merits. We suggest, however, that its utility might be increased by a somewhat fuller account of the commonest causes of poisoning, such as coal gas and lysol.

The first volume of the forty-fourth series of *International Clinics*⁹ is divided into four parts, devoted respectively to original articles on medicine, surgery, and paediatrics, and reviews of recent progress in medicine and surgery. The section on medicine contains instructive papers by Noel Fliessinger of Paris on hepatic insufficiency, by Lay Martin of Baltimore on jaundice, by Tinsley R. Harrison of Baltimore on enlargement of the heart, by William S. Lowe of Baltimore on so-called functional heart disease, by G. L. W. Gorham and K. E. Crounse of Albany on recent advances in the treatment of cardiac and renal oedema, by Henry M. Moses on the management of old-age conditions, and by Samuel Weiss and Vera L. Coles on the role of the vegetative nervous system in gastro-intestinal diseases. The section on surgery contains an interesting paper by I. A. Bigges and William B. Porter of Richmond, Va., with a record of seven personal cases and a review of the literature. The sections on paediatrics consist of a symposium on lead poisoning in its various aspects, including its occurrence in children, by H. B. Cushing and H. S. Mitchell, x-ray diagnosis by H. E. Childe, its biochemical aspects by I. M. Rabinowitch, the pathology by Lawrence J. Rhea, and treatment by S. G. Ross, all of Montreal. Recent progress in medicine is discussed by A. Cantarow of Philadelphia, and in abdominal surgery by Donald C. Balfour and James R. Watson of Rochester, Minnesota.

The British Social Hygiene Council (Carteret House, London, S.W.1) has published a thirty-four-page booklet entitled *Health Notes for Young Men Overseas*, which provides suitable information on venereal diseases, etc., intended for young employees of tea, rubber, and other firms going to the East. It has been prepared by Dr. T. DRUMMOND SHIELDS on the lines of the Ross Institute booklet on malaria, and can be obtained for 4d. Up to 25 per cent. of free copies are offered to firms placing an order for these booklets.

⁸ *What to Do in Cases of Poisoning*. Edited by P. Hamill, M.D., D.Sc., F.R.C.P. Fourteenth edition. London: H. K. Lewis and Co. Ltd. 1934. (Pp. viii + 204. 5s. net.)

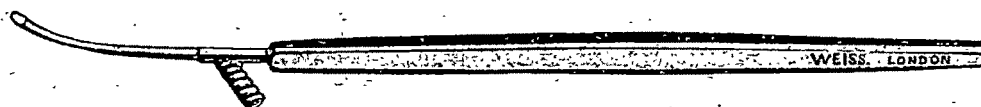
⁹ *International Clinics*. Vol. 1, forty-fourth series, 1934. Edited by Louis Hamman, M.D. Philadelphia, Montreal, and London: J. B. Lippincott Company. 1934. (Four volumes quarterly. 50s.)

Preparations and Appliances

IRRIGATING REPOSITOR FOR CATARACT EXTRACTION

Mr. B. W. RYCROFT, F.R.C.S. (London, W.), writes: During the operation of cataract extraction it is frequently necessary to irrigate the anterior chamber in order to remove residual lens cortex after the nucleus has been extracted. Thereafter

point, and slightly curved on the flat. This is mounted on a handle, to which is fitted a small nozzle for attachment of a rubber tube, around which the whole shaft is balanced. The diameter of the tube is little more than that of an ordinary iris repositor, and can be inserted between the lips of the corneal section without causing the wound to gape. Further-



the iris is replaced and the edges of the wound cleared of capsule, etc. In order to complete this double manoeuvre by a single instrument an irrigating repositor has been constructed, and has proved satisfactory in practice.

The instrument (shown in the accompanying figure) consists of a fine bone hollow tube of silver tapered to a narrow

more, it may be easily passed to the lower limits of the anterior chamber in order to obtain a reverse flow and to dislodge stubborn masses of lens cortex. The rate of flow is controlled by either hand.

The instrument is constructed by John Weiss and Co., Oxford Street, London, W.

MANCHESTER MEDICAL SOCIETY CENTENARY

BY

E. M. BROCKBANK, M.D.

Manchester has been, is, and will be celebrating centenary anniversaries of important societies in the conception of all of which the medical profession had been more or less active. Last year the Statistical Society, the first of its kind in England, reached its hundred years of existence. One of its first four founders was Dr. James Phillips Kay, afterwards Sir James Kay-Shuttleworth (1804-77), a baronetcy being awarded for his national services to education. Presidents of the society were Dr. John Robertson (1844-7), Dr. Daniel Noble (1859-61), and Dr. James Niven (1905-7): I had the honour of giving the society an account of "A Medical Statistician of a Century and a Half Ago" (Dr. Thomas Percival) during its historical celebrations. This year the Manchester Medical Society became a centenarian on October 1st; and next year the Manchester Athenaeum—practically a similar institution, but for the commercial man in the street—reaches a similar age. In a *History of the Manchester Medical Society* it is suggested that the idea of both our own society and of the Athenaeum was conceived, and preliminary steps for their formation taken, by one man—John Walker—a surgeon of the town. As much as is known of Walker is recorded in the *History* of the society which has been prepared for the centenary. Before 1834 there was no medical library available for general reference, and no society confined to members of the profession at which medical questions could be ventilated.

FROM 1782 TO 1834

The Manchester Literary and Philosophical Society was conceived and really brought into being in 1782 by Dr. Thomas Percival of medical ethics fame, with the forceful assistance of Thomas Henry, F.R.S., apothecary to the Manchester Infirmary—that is, a general practitioner of the day—and the Rev. Thomas Barnes, Unitarian minister of the town. This society was mainly run by the profession for thirty or more years, half of the offices—presidents, treasurers, secretaries—being filled by our forebears. In its early days the doctors read papers before it, but they were mainly of general interest, and any member of the society could attend its meetings. The only method in which professional matters could then be discussed seemed to be by the public press, in pamphlets, and even in octavo volumes of considerable size. Our forefathers of the day were no milk-and-water, controversialists; ink was no use to them—gall apparently flowed more naturally from their quill pens. The most important controversy of those times was over the justifiability of the Caesarean section operation, which Dr. John Hull defended against the scathing comments of William Simmons, backed up by Dr. John Ferriar. Then Charles White, drew down the sneers of Ferriar upon his method of describing the anatomical distribution of the swelling in phlegmasia alba dolens puerperarum. All in public too, and no doubt spicy material for the general readers.

A HUNDRED YEARS OF ACHIEVEMENT

In spite of the evident need for one, there was no attempt to found a purely medical society until 1833, when a meeting was held and a decision made to canvass the practitioners of the district on the question. Two energetic young persons—John Walker and Joseph Peel Catlow—undertook this, and the result was the foundation next year of a society with the object of providing a library and reading room and place for meetings for discussing medical topics. Dr. John Hull, then the doyen of the profession, was elected first president.

The history of the society, with its ups and downs, hard work by some members, indifference by others, financial struggles, is probably that of other societies: but one outstanding feature was the acquisition of a very extensive and valuable library through the efforts of

Thomas Windsor, an ophthalmic surgeon of distinction in his day. For fifteen years he bought many thousands of second-hand books from home and abroad. Among them were some dozen incunabula, many examples of fine printing from the leading Continental presses, anatomical plates, biographical dictionaries, sets of periodicals—indeed, anything that might be of value for reference or research. So much was spent on these books that the committee got restive, and the end was Windsor's withdrawal from his library activities and transference of his help to Dr. Billings's library of the United States Surgeon-General at Washington.

The actual hundred years of achievement was reached on October 1st, on which date an exhibition of books, portraits, curios, and other objects bearing on the medical history of the town was opened in the new Central Library of the city, where it will remain for general inspection until October 20th. The president of the society for the year, Dr. E. Bosdin Leech, gave an address on October 3rd; the first Wednesday in the month, on which ordinary meetings of the society have invariably been held from October 1st, 1834. His subject was "Some Picturesque Episodes of Manchester Medical History." Before the address Dr. Leech presented, for the honorary membership of the society, the Earl of Crawford and Balcarres, Chancellor of the University, Sir Walter Moberly, Vice-Chancellor, Mr. Walter Cobbett, Chairman of the Board of Trustees of the Manchester Royal Infirmary, Percy Winstanley Hull, grandson of Dr. John Hull, the society's first president, Dr. J. M. Bligh, President of the Liverpool Medical Institution, and Professor J. A. Nixon of Bristol, who is to address the society next month on "Licence to Practise and Liberty to Teach Medicine in the English Provinces." A dinner followed on the same evening, at which many distinguished visitors were present. On Sunday, October 7th, there was a special service in the Cathedral, the preacher being the Right Reverend Cecil Wilson, Bishop of Middleton.

THE COMMEMORATIVE EXHIBITION

The exhibition is in the large hall of the new Central Library of the city, recently opened by the King, which has been designed for such a purpose. The display, mostly of objects illustrating the medical history of the town, is well worthy of the honour of being the first of its kind to appear in such a striking place. It is being visited daily, with great interest, by hundreds of the general public, for whom it was chiefly intended. The exhibits are disposed in handsome erect metal and glass cases, while for the larger articles and books horizontal cases are used. Of books there are samples of medical publications of the fifteenth and sixteenth centuries, from the most famous Continental presses, some in Greek characters. More modern books illustrate the writings of local doctors who have promoted the knowledge of medicine. Most of these exhibits are made more interesting by a portrait of the author displayed by the side of his book. Two cases contain books and pamphlets dealing with the vaccination controversy before 1816, and copies from burial registers of the town churches showing the ravages of small-pox, especially among children, of the period. One very interesting exhibit is a series of illustrations and portraits showing the growth of the Manchester Royal Infirmary from its foundation in 1752, and a group of its original large gallipots and poison bottles, the latter like large stone ginger-beer bottles of last century. Among other objects which attract attention is a carbolic acid spray, given by Lister to the late Mr. Edward Jenner. The progress of the public health of the town is illustrated by graphs, especially made for the purpose, with singular clarity of exposition.

A final note of personal interest is that the centenary year is nephewed by Dr. John Leech, professor of materia medica in the University of Manchester, who was in the jubilee of the society. Dr. Leech was keenly interested in the history of the society, and was instrumental in the acquisition of the ethyl nitrite collection, which is now in the hands of the society, though it is

LEWISHAM HOSPITAL EXTENSION

OPENING BY LORD DAWSON

A new ward block at Lewisham Hospital—one of the general hospitals of the London County Council—was opened on October 9th by Lord Dawson of Penn. The block consists of three wings, and comprises a maternity department with accommodation for sixty-three cases, a children's section with thirty-five cots, and two general wards containing sixty-six beds. The total additional accommodation provided in the extension is 164 beds. In the maternity unit the main wards are divided into three, and at the end is the babies' "crib ward," with toilet room. There are five labour rooms, a bathroom for newborn babies, and a room, specially heated and thermostatically controlled, for babies born prematurely. The children's section includes an admission bathroom, a milk room for the preparation of feeds and the sterilization of bottles, and a sun parlour. Glazed divisions between the sections give a less institutional appearance, and aid in the classification of patients. In addition to the ordinary examination lamps, there are plugs for use in connexion with x-ray examination by each bedside, and wireless earphone points for each patient. The new works, including equipment, are expected to cost £55,500, and will bring the total accommodation of the hospital, which had 5,655 in-patients last year, to 747.

The opening ceremony was largely attended by members and officers of the London County Council and by a number of consultants and specialists in its service. Mrs. Nellie Palmer, chairman of the Lewisham Hospital Committee, presided. Mr. Somerville Hastings, chairman of the Hospital and Medical Services Committee of the Council, in welcoming Lord Dawson, said that this new block was the biggest piece of constructive work that the Council had undertaken since it became responsible for municipal hospitals in 1930. It was believed, and hoped, that the wards were thoroughly up to date, and efficient in every way, and it was known how very necessary they were in a rapidly growing district. The available beds in connexion with L.C.C. hospitals were constantly being increased, and a few weeks' time another hospital would be taken over—namely, Heatherwood Hospital, with more than 100 beds, presented by the United Services Fund. Mr. Somerville Hastings pleaded for the development of after-care work, which must be of a voluntary nature, in connexion with the hospitals. He wanted to see efficient Samaritan committees formed at each institution.

Lord Dawson of Penn, who wore his gown as president of the Royal College of Physicians of London, said that he was present not only in his personal capacity, but as President of the College. The two Royal Colleges comprised in their Fellowship a large proportion of the members of staffs of the leading hospitals of the country, and had accumulated in the course of years a certain amount of knowledge and experience which they were so anxious to place at the service of any forward movement which would improve hospital services in this country. He paid a tribute to Sir Frederick Menzies, medical officer of health, on whom, as the administrator of our time, his College placed so much reliance. In addition to the Fellowship proposed by the Local Government to Sir Frederick Menzies, the Government of the Post-Office, Mr. G. H. Smith, now

approaching completion. Lord Dawson sketched the wide compass of the medical services of the L.C.C., and referred to the increasing co-operation with the voluntary hospitals. The L.C.C., with great wisdom, had associated its new hospitals with the right conception of teaching. One practical issue was the linkage of municipal hospitals for teaching purposes to the teaching hospitals of London. Passing to the building which he was to open, Lord Dawson said that it was a great pleasure to be in a building in which such fastidious care had been spent on details of construction—on the proper provision of light and air, and on the width and height of wards. He congratulated the hospital on the fact that it stood in more than ten acres of grounds. It was elementary foresight on the part of any hospital or clinic, private or public, to acquire more ground than it could immediately use, for no one could say in what large direction hospital construction might make progress during the next fifty years. He praised, also, the provision for maternity cases, which would help to make child-bearing safe. He hoped that in course of time all the municipal health services of the district would be located within the hospital, instead of being scattered at various centres. Finally, he stressed the need for a department of physiotherapy in connexion with all hospitals.

By means of a microphone Lord Dawson addressed a few words of encouragement to the patients, who were listening-in, and then he and the general company proceeded to inspect the block.

ROYAL MEDICAL BENEVOLENT FUND

Subscriptions and donations are very urgently needed in order that the activities of the Fund may be maintained. Legacies are needed to support the annuity department. Cheques should be made payable to the Honorary Treasurer, Royal Medical Benevolent Fund, 11, Chandos Street, Cavendish Square, London, W.1.

The committee at a recent meeting voted seventy-two grants amounting to £1,513 10s. The following are particulars of three out of the many cases helped.

M.S., F.R.C.S., aged 58, married, with three children, aged 16, 14, and 12. Joined up for the war, and was in France from 1915 to 1917, when he retired on account of ill-health. Then followed a long period of locums, with a growing family to educate. Two years ago he started in a practice of his own. In July, 1934, the applicant was admitted to hospital, and had an operation for pyloric stenosis. It was found that he had suffered from a duodenal ulcer for some years. It was clear that this man had been struggling to build up a practice to support his family while seriously ill. He will require a long holiday after his discharge from hospital. He has no savings to meet this, nor for the support and maintenance of his family, and there are some pressing debts. The Fund has given immediate assistance of £30, and help has been obtained from other societies amounting to £157. Total charitable gifts, £187.

Widow of L.R.C.P. and L.M. The husband died suddenly in 1923 from heart disease. The widow, aged 30, was left inadequately provided for with three young children. She has sought employment, and has worked as nurse and housekeeper, but was recently dismissed owing to breakdown in health. The eldest daughter has now reached the age for employment, and is earning £83 per annum; the two younger are at school. The Fund and Ladies' Guild are assisting with grants amounting to £56. The total income available for food and household needs for this family is £167, which has also to meet children's extras at school, fares, and outfit, but excluding school fees.

Widow of L.R.C.P. and S. The husband died in 1931, leaving his widow, aged 46, with a family of five children. Fortunately three were able to earn and contribute £147 to their mother towards their own maintenance. The Fund gives a yearly grant of £26 and the Ladies' Guild £19 10s. Total income is £197 10s.; rent and rates, £58, leaving £139 for the maintenance and household needs of six persons.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL

LONDON: SATURDAY, OCTOBER 13th, 1934.

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THE COMING ELECTION TO THE GENERAL MEDICAL COUNCIL ENGLAND AND WALES: ELECTION ADDRESSES

The British Medical Association decided at the Annual Representative Meeting in July last to support the candidature at the forthcoming election of two direct representatives for England and Wales on the General Medical Council of Sir Henry Brackenbury (Hendon) and Mr. N. Bishop Harman (London). Sir Henry Brackenbury has held office as a direct representative since January 1st, 1925, and Mr. Bishop Harman since November 26th, 1929. We print below the letters announcing their candidature for re-election.

30, West Heath Drive,
Hendon, N.W.11.
October, 1934.

Dear Sir or Madam,

On two previous occasions my professional colleagues have honoured me by electing me as one of their direct representatives on the General Medical Council. During this period of ten years I have given assiduous attention to both the educational and the disciplinary aspects of the Council's work, and some improvements have been effected in both these directions. In addition, an increase in the number of direct representatives has been secured. I have served upon the Executive, the Education, and the Public Health Committees of the Council.

The powers and duties of the Council are more limited, and more strictly defined than is commonly supposed; but, in the immediate future, attention must be given to the improvement of medical education, to the relation of the profession to public health services, and to the international relationships of medical practice. The contribution of the Council to the consideration of these questions is of more than ordinary importance, and I hope that my extended and intimate acquaintance with these matters, both as a general practitioner of many years' standing and as one who has had much opportunity of actual administrative experience, may be of service to the profession, if the confidence hitherto so kindly accorded me should be renewed and I should be re-elected to the Council.

Yours faithfully,

HENRY B. BRACKENBURY, M.D. (Hon.),
LL.D. (Hon.), M.R.C.S., L.R.C.P.

To the Registered Medical Practitioners of
England and Wales.

108, Harley Street,
London, W.1.
October, 1934.

Dear Sir or Madam,

In November, 1929, you did me the honour of choosing me to be one of your direct representatives on the General Council of Medical Education and Registration of the United Kingdom. For the past five years I have attended faithfully to the duties of that office, both upon the Council and on some of its committees. I have been appointed a Trustee of the Council and its representative upon the Dental Board of the United Kingdom and one of the Treasurers of that Board.

Medical Education is receiving to-day more than ordinary attention. It is likely that changes of far-reaching importance may be made in the curriculum during the next five years. I have had practical experience in medical educational methods: first, at Cambridge University as teacher and examiner of medical students; later, at a London teaching hospital; and lastly and for many years, as teacher and dean of the West London Post-Graduate College. This last work has brought me into close relations with practitioners of every type and from all parts of the Empire; with those engaged in general practice, in public health work, and in the Services; it has given me a keen appreciation of the difficulties and needs of the medical practitioner. Further, for many years, in addition to my own work as a specialist, I have had service in the largest public health authority in the world, and this work has been illuminating.

The experience gained in teaching, in private practice, and in professional affairs provides a "triple qualification" that is as instructive as it is searching. I have endeavoured to qualify in that strict school.

I now submit myself to your suffrages for a second period of service as one of your representatives. If you should deem me worthy to represent you once again I will strive to justify that trust.

Yours faithfully,

N. BISHOP HARMAN,
LL.D., M.B., F.R.C.S.

To the Registered Medical Practitioners of
England and Wales.

LIST OF SUPPORTERS

The following is a list of those officers of the British Medical Association, of Local Medical and Panel Committees, and others, who have signified their intention to support the candidatures of Sir Henry Brackenbury and Mr. Bishop Harman for election as direct representatives of the registered practitioners in England and Wales upon the General Medical Council.

Ackland, Mr. W. R., Clifton, Branch President.
Adams, Dr. A. C., West Hallam, Division Chairman.
Adams, Dr. H., North Shields, Division Chairman, Representative and Chairman L. M. and P. Committee.
Addey, Dr. W. F., Ipswich, Representative.
Alcock, Dr. S. C., Reading, Representative L. M. and P. Committee.
Allan, Dr. J., Leeds, Representative.
Anderson, Dr. Hannah P., Chelsea, Representative.
Anderson, Dr. P. V., Shildon, Member Insurance Acts Committee, Representative L. M. and P. Committee.
Applegate, Dr. J. W., Dewsbury, Branch President.
Appleton, Dr. O. L., King's Lynn, Branch President.
Asten, Dr. W., Bournemouth, Branch President.
Atkinson, Dr. P. B., New Bradwell, Bucks, Division Secretary.
Balfour, Dr. Margaret, London, Member Indian Medical Services Committee.
Barford, Dr. L. J., Redhill, Division Secretary.
Barford, Dr. P. A. V., Tamworth, Division Secretary.
Barker, Dr. E., Hull, Chairman L. M. and P. Committee.
Baron, Dr. H. N., Orford, Chairman L. M. and P. Committee.
Barr, Dr. Wm., Rotherham, Division Chairman.
Barrow, Dr. R. H. B., Winchester, Division Secretary.
Bates, Dr. J. E., Wimbledon, Chairman L. M. and P. Committee.
Bates, Mr. Mark, Worcester, Representative.
Bates, Dr. T. H., Newcastle-on-Tyne, Representative and Secretary L. M. and P. Committee.
Batt, Dr. B. E. A., Bury St. Edmunds, Division Secretary.
Batteson, Dr. V. J., Forest Gate, Representative.
Baxter, Dr. S. E., Wellingborough, Chairman L. M. and P. Committee.
Bayne, Dr. W. R., Barrow-in-Furness, Division Chairman.
Beadles, Dr. Harold S., Romford, Representative, Secretary L. M. and P. Committee.
Beattie, Dr. F. A., London, Division Chairman.
Beauchamp, Dr. A., Birmingham, Representative, Representative L. M. and P. Committee.
Beddingfield, Dr. H., Leeds, Division Secretary.
Belam, Dr. F. A., Guildford, Branch President.
Bennett, Dr. J. B., Hyde, Division Secretary.
Berry, Professor R. J. A., Bristol, Member of Council and of Dominions Committee.
Bhabha, Rev. S. D., London, Representative.
Biggart, Dr. A. S. L., West Hartlepool, Representative and Chairman L. M. and P. Committee.
Bird, Dr. A. E., Burnley, Representative and Chairman L. M. and P. Committee.
Bird, Dr. H. M., Bury St. Edmunds, Representative.
Birrell, Dr. J. A., Bristol, Representative and Secretary L. M. and P. Committee.
Birtwhistle, Dr. F. P. H., Barton-on-Humber, Representative.
Blackburn, Mr. J. T., Pontefract, Division Secretary.
Bodman, Dr. F., Bristol, Representative, Member of Journal Committee.
Bond, Dr. F. F., Trowbridge, Branch Secretary.
Bone, Dr. J. W., Luton, Representative, Member of Council.
Bonney, Mr. Victor, London, Member of Arrangements Committee.
Borham, Dr. J. D., Southwold, Division Chairman.
Bousfield, Dr. Guy, Camberwell, Division Secretary.
Bowen, Mr. W. H., Cambridge, Branch Secretary.
Bower, Dr. H. J., Southampton, Division Chairman.
Bowman, Dr. J. W., Stockton, Division Chairman.
Boyd, Dr. E. R., Stoke-on-Trent, Representative L. M. and P. Committee.
Boyd, Dr. R., Manchester, Representative.
Boyd, Mr. Sidney, Hampstead, Division Secretary.
Boylan, Dr. P., Walthamstow, Representative.
Bradbrooke, Dr. H. N., Abingdon, Representative.
Bradley, Dr. W. H., Stratton-on-the-Fosse, Secretary L. M. and P. Committee.
Brierley, Dr. E. E., Cardiff, Member of Council and of Charities Committee.
Bristowe, Dr. H. C., Bristol, Representative.
Broadhead, Dr. L. V., Barnsley, Representative L. M. and P. Committee.
Brown, Dr. G. H., Tean, Representative.
Brown, Dr. H., Sheffield, Representative, Division Secretary.
Brown, Dr. H. S., Choppington, Representative L. M. and P. Committee.
Brown, Dr. J. A., Birmingham, Representative, Member of Insurance Acts Committee.
Brown, Dr. J. W., Cleethorpes, Representative.
Buchan, Dr. C. J. B., London, Branch Secretary.
Buchan, Dr. J. J., Bradford, Member of Insurance Acts Committee.
Buckley, Dr. C. W., Buxton, Branch President and Division Chairman.
Bulman, Dr. J. R., Hereford, Branch President and Division Chairman.
Bulman, Mr. M. W., Norwich, Division Chairman.
Burgess, Professor A. H., Manchester, Member of Council

Burnell, Mr. G. F., Truro, Division Secretary.
Butler, Dr. T. Harrison, Birmingham, Member of Ophthalmic Committee.
Caiger, Mr. H., Sheffield, Representative.
Caird, Mr. A. J., Carlisle, Division Chairman.
Candler, Mr. L. Dougal, Doncaster, Division Secretary.
Cane, Dr. L. B., Bungay, Secretary L. M. and P. Committee.
Carter, Dr. O. C., Bournemouth, Division Secretary.
Charles, Dr. J., Stanley, Division Secretary.
Charsley, Dr. G. W., Sydenham, Representative.
Chase, Dr. R. Godwin, Lewisham, Representative L. M. and P. Committee.
Chillingworth, Dr. A. J., Bedford, Branch President and Secretary L. M. and P. Committee.
Clapperton, Dr. T., Oakham, Chairman L. M. and P. Committee.
Claridge, Dr. G. P. C., Norwich, Branch Secretary.
Clarke, Dr. H. M., Reading, Secretary L. M. and P. Committee.
Clarke, Dr. J. H., Scunthorpe, Division Secretary.
Clarke, Dr. J. S., Weobley, Chairman L. M. and P. Committee.
Clarke, Dr. Sidney, St. Albans, Secretary L. M. and P. Committee.
Clarke, Mr. T. A., Canterbury, Division Secretary.
Clarke, Dr. T. W., Acton, Division Secretary.
Claxton, Dr. E. I., Liverpool, Representative.
Clay, Dr. R. C. C., Fovant, Division Chairman.
Clayre, Dr. J., Southampton, Division Secretary.
Cloake, Prof. P. C., Birmingham, Branch President.
Clow, Dr. D., Cheltenham, Representative, Chairman L. M. and P. Committee.
Coaker, Dr. F. W. J., Bromsgrove, Representative L. M. and P. Committee.
Cockshut, Dr. R. W., Hendon, Division Secretary.
Cohen, Dr. J., Kensington, Representative, Division Secretary.
Collins, Dr. J. N., Peterborough, Division Chairman, Secretary L. M. and P. Committee.
Collins, Dr. Warner, Wandsworth, Division Secretary.
Colvin-Smith, Dr. R. C. M., Cromer, Representative and Secretary L. M. and P. Committee.
Conway, Lieut.-Colonel J. M. H., Retford, Member of Council.
Cooke, Dr. W. E., Wigan, Division Secretary.
Cooper, Dr. J. S., Clitheroe, Representative L. M. and P. Committee.
Copeman, Dr. S. Monckton, Hampstead, Representative.
Cornwall, Lieut.-Colonel J. W., Godalming, Division Chairman.
Cory, Dr. J. W. E., Bury St. Edmunds, Division Chairman, Representative L. M. and P. Committee.
Cotter, Dr. C., Tower Hamlets, Representative.
Coulter, Dr. R. J., Newport, Member of Ophthalmic Committee.
Cowell, Mr. E. M., Croydon, Representative.
Craig, Dr. C. M., Kendal, Representative.
Cranna, Dr. R., Bolton, Division Secretary, Representative L. M. and P. Committee.
Crawford, Dr. T. A., Finchley, Representative.
Crowe, Dr. H. Neville, Worcester, Branch Secretary.
Cunningham, Dr. N. R., Bradford, Representative.
Cuppuge, Dr. B., Bath, Representative and Secretary L. M. and P. Committee.
Cyriax, Dr. R. J., Leamington Spa, Division Secretary.
Dain, Dr. H. Guy, Birmingham, Deputy Chairman of R.B., Member Insurance Acts Committee.
Davidson, Dr. J. A., Ealing, Representative.
Davies, Dr. A. B., Walsall, Representative, and Representative L. M. and P. Committee.
Davies, Dr. J. C., Wrexham, Member of Insurance Acts Committee.
Day, Dr. G., Norwich, Division Secretary.
Day, Dr. J. J., Canterbury, Member of Insurance Acts Committee.
Deighton, Dr. A. H., Grimsby, Secretary L. M. and P. Committee.
Denny, Dr. E. Barry, Lincoln, Chairman L. M. and P. Committee.
D'Ewart, Dr. J. T., Manchester, Representative, Member of Finance Committee.
Dix, Dr. C., Bristol, Chairman L. M. and P. Committee.
Dockray, Dr. J. S., Bishop's Stortford, Representative, Chairman L. M. and P. Committee.
Dods, Dr. J. G., Carnarvon, Secretary L. M. and P. Committee.
Doodley, Dr. P. G., Ilford, Division Secretary.
Downer, Dr. R. L. E., Shrewsbury, Branch Secretary.
Druitt, Dr. D. C., Petworth, Representative L. M. and P. Committee.
Dummere, Dr. A. B., King's Lynn, Division Chairman.
Duncan, Dr. R., Richmond, Division Secretary.
Dunhill, Sir Thomas, London, Member of Council and Dominions Committee.
Dunlop, Dr. D. C., Rugby, Division Secretary.
Eades, Dr. R. O., Ipswich, Branch and Division Secretary.
Eccles, Mr. W. McAdam, London, Member of Council and Hospitals Committee.
Edington, Dr. D. C., Penrith, Representative and Chairman L. M. and P. Committee.
Edwards, Dr. C. K. D., Southport, Division Secretary.
Ellis, Dr. R., Cottenham, Chairman L. M. and P. Committee.
English, Sir Crisp, London, Representative, Member of Council.
Evans, Mr. D. J., Birmingham, Division Secretary.
Evans, Mr. Griffith, Carnarvon, Division Chairman.
Evans, Dr. R. J., Pwllheli, Representative and Chairman L. M. and P. Committee.
Evans, Dr. W. M., Rotherham, Representative and Secretary L. M. and P. Committee.
Everatt, Dr. W. R., Dewsbury, Division Secretary.
Fagge, Mr. C. H., London, Member of Arrangements Committee.
Fardon, Dr. J. H., Birkenhead, Division Chairman.
Feilden, Mr. F. E., Hove, Division Chairman.
Fenton, Dr. J., London, Representative.
Fenton, Dr. M. J., Lambeth, Representative, Division Chairman.

- Ferguson, Dr. D., Warrington, Chairman L. M. and P. Committee.
 Ferguson, Dr. M. D., York, Division Chairman.
 Fison, Mr. E. T., Salisbury, Branch President.
 Flemming, Dr. C. E. S., Bradford-on-Avon, Representative, Member of Council.
 Forbes, Dr. Alex., Sheffield, Representative L. M. and P. Committee.
 Ford, Dr. R. Kelson, London, Division Chairman.
 Forrest, Dr. J. L., Bournemouth, Representative.
 Forsyth, Dr. W. W., Darlington, Division Chairman.
 Fothergill, Dr. E. R., Hove, Representative, Member of Council.
 Foulkes, Dr. R. K., Exeter, Division Chairman.
 Frederick, Dr. H. R., Port Talbot, Representative.
 Frier, Dr. C., Grantham, Representative, Representative and Secretary L. M. and P. Committee.
 Frith, Dr. W. S., Brigg, Division Chairman.
 Fuller, Dr. C. J., Exeter, Division Secretary.
 Galletly, Dr. E. L., Hyde, Division Chairman.
 Galloway, Dr. N. P. R., Nottingham, Member of Ophthalmic Committee.
 Garbutt, Dr. W. J., Birmingham, Secretary L. M. and P. Committee.
 Gardiner-Hill, Dr. H., London, Member of Arrangements Committee.
 Garman, Dr. J. B., Great Barr, Birmingham, Division Chairman.
 Garrood, Dr. J. R., Huntingdon, Chairman L. M. and P. Committee.
 Gaze, Dr. J. E., Wealdstone, Representative L. M. and P. Committee.
 Genge, Dr. G. G., Croydon, Representative and Secretary L. M. and P. Committee.
 Gibbons, Dr. G., Rothwell, Representative.
 Gibson, Dr. A. J., Brentwood, Representative L. M. and P. Committee.
 Gillan, Dr. R. U., Walsall, Division Secretary.
 Gillespie, Dr. A., Hull, Secretary L. M. and P. Committee.
 Gilmore, Dr. T. J., Stoke-on-Trent, Division Chairman.
 Gittings, Dr. F. C. B., Portsmouth, Division Secretary.
 Giuseppe, Mr. P. L., Felixstowe, Member of Council and Dominions Committee.
 Glass, Dr. A. G., Bolton, Representative, Division Chairman.
 Glover, Dr. L. G., Hampstead, Representative, Member of Council.
 Glover, Dr. R. M., Doncaster, Representative.
 Gomez, Dr. F. J., South Petherton, Division Secretary, Representative L. M. and P. Committee.
 Gompertz, Dr. A., Stockton-on-Tees, Representative, Division Secretary.
 Goodbody, Dr. F. W., London, Member of Council and Naval and Military Committee.
 Goodfellow, Dr. T. A., Manchester, Chairman L. M. and P. Committee.
 Gordon, Dr. R. G., Bath, Member of Council and Science Committee.
 Gore, Dr. F. Morton, Wolverhampton, Secretary L. M. and P. Committee.
 Gostling, Dr. G. W., York, Chairman L. M. and P. Committee.
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 Boyd, W.: *Textbook of Pathology*. Second edition. 1934.
 Bray, G. W.: *Recent Advances in Allergy*. Second edition. 1934.
 Briggs, E. A.: *Anatomy of Animal Types*. 1934.
 Campbell, D.: *Handbook of Therapeutics*. Second edition. 1934.
 Catterina, A.: *L'Opération de Bassini*. 1934.
 Catterina, A.: *Bassini's Operation*. 1934.
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 Cotte, G.: *Chirurgie du Sympathique Pelvien en Gynécologie*. 1932.
 Dattner, B.: *Moderne Therapie der Neurosyphilis*. 1933.
 Dore, S. E., and Franklin, J. L.: *Diseases of the Skin*. 1934.
 Edelmann, R.: *Textbook of Meat Hygiene*. Sixth edition. 1934.
 Fairbrother, R. W.: *Handbook of Filterable Viruses*. 1934.
 Fischer, M. H., and Hooker, M. O.: *Lyophilic Colloids*. 1933.
 Gastinel, P., and Pulvenis, R.: *La Syphilis Expérimentale*. 1924.
 Grinker, R. R.: *Neurology*. 1934.
 Groves, E. R., and Groves, G. H.: *Sex in Marriage*. 1934.
 Haberling, W.: *German Medicine*. 1934.
 Hartman, C. G., and Straus, W. L.: *Anatomy of the Rhesus Monkey*. 1933.
 Hauduroy, P.: *Les Ultravirus*. 1934.
 Hertzler, A. E., and Chesky, V. E.: *Surgery of a General Practice*. 1934.
 Jordan, H. E.: *Textbook of Histology*. Sixth edition. 1934.
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British Medical Association

CLINICAL AND SCIENTIFIC PROCEEDINGS

UNITED PROVINCES BRANCH

At the annual meeting for the session 1934 of the United Provinces Branch, held at Lucknow, the outgoing president, Professor W. BURRIDGE, gave his presidential address, entitled "The New Doctrine of Rhythm," of which the following is an abstract supplied by the author.

NEW DOCTRINE OF RHYTHM

The philosophy of physiology, a foundation science of the clinician, treats as axioms the three assumptions that all the fundamental properties of living organs are to be found in the frog's muscle-nerve preparation, that all organs are quiescent until excited by a stimulus, and that any natural stimulation is the same as the process of exciting isolated muscle or nerve to action by electric currents. These assumptions enter into every argument relative to the activation of muscular and nervous tissues, and they form the basis of the theories advanced to explain the phenomena found. The manifest or scientific theory which emerges from such arguments is therefore really secondary or adjunctive to the assumptions, which are the basic or primary theories. The validity of the scientific theory consequently depends on the validity of the assumptions. If the latter are found invalid, the scientific theories are invalid. The facts will remain, of course, but they will lead to different theories without these assumptions. Alcohol, for example, presented the evidence of a simultaneous exertion of depression and stimulation of conduct. Presumption, however, made impossible the simultaneous exertion of depression and stimulation on any one organ or tissue. Therefore the existence of higher and lower psychic centres had to be imagined in order to adjust the facts to the presumption. But there is now available the evidence of fact that alcohol can actually do what, according to the presumption or basic theory, is impossible.⁴ Hence we must not only discard the presumption or basic hypothesis, but also the hypothesis of higher and lower centres which was adjunctive thereto.^{1 2 4}

It is further now demonstrated fact that the stimulation or depression of a beating heart's activity through drugs or other agents is an entirely different proposition from that of exciting isolated muscle or nerve.¹ A heart's capacity to have its activity modified by environmental change, as drug, etc., has been called responsiveness, and this property obeys its own laws, in which the classical excitability studied in the muscle-nerve preparation plays no part. The excitable heart of the clinician is, in fact, not only wrongly named; but, further, its name directs one away from an understanding of its nature.

Rhythmical organs possess excitability, of course, just like isolated muscle and nerve. Responsiveness is an additional possession.¹ Excitability pertains to the "sparking" mechanism of the rhythmical organ, responsiveness to its "throttle adjusting."¹ Rhythmical organs are also capable of responding to stimulation by a specific augmentation, the hysteretical augmentation, which, again like responsiveness, has its own properties and laws.¹ It has been called "hysteretical" because its striking feature is a capacity to outlast the action of its producer. The augmentation does not immediately subside when the stimulant ceases to act, but continues in being instead, and subsides gradually. The after-effects of sensations are due to this hysteretical.²

Responsiveness and Hysteretical Augmentation

Responsiveness and the hysteretical augmentation are new discoveries, whose values are indicated by considering two groups of primary hypotheses relative to retinal end-organs. The first is that these end-organs are quiescent until excited to activity by light, and that their excita-

tion is the same as the action of electric currents on isolated muscle or nerve. The second is that these end-organs have inherent rhythmical activity, and that light effects a hysteretical augmentation of this activity. If the first group of hypotheses be selected, then for each phenomenon actually observed a special secondary or adjunctive hypothesis becomes necessary to explain away the fact that the behaviour of these organs never is what it ought to be if they were structures of the type the primary hypotheses presume them to be. And, what is more, many differing hypotheses, each of seemingly equal validity, can be advanced to explain away each fact. The hitherto current science of retinal stimulation is a mass of such hypotheses. In contrast with this, if the second group of hypotheses be taken, secondary or adjunctive hypotheses are no longer required because the behaviour of the organs is just what it ought to be if they were structures of the type which the primary hypotheses presume them to be. The facts of stimulation therefore demonstrate the validity of the original propositions. None, however, could appreciate what the facts demonstrated unless he was acquainted with the hysteretical augmentation—a new discovery. Until that discovery was made, therefore, the best that could be done was to do what was done—namely, to adjust the facts to the original proposition of quiescence. At the same time, it is also to be appreciated that a new fact which automatically disposes of so many treasured adjunctive hypotheses as does the hysteretical augmentation is not likely to be warmly welcomed.

The second group of hypotheses above was originally deduced from the facts of our vision of light and shade, and their validity subsequently tested by using them to predict what "ought" to be in respect of colour.² The regular agreement between predictions and known facts then provided what in the abstract is a striking confirmation of the validity of the premisses from which such accurate deductions were made. In the concrete, however, enthusiasm for an automatically discarded but treasured hypothesis can interfere with due appreciation of the significance of this accurate prediction. The existence of primary colours, for example, is confirmed from these hypotheses, but they are shown to be of a nature of which none previously had any conception.²

Interpretation of Reflex Arc Behaviour

These new facts—responsiveness and the hysteretical augmentation—can make as much difference to the interpretation of the significance of reflex arc behaviour as they have just been indicated to make to the facts of retinal stimulation.³ Investigators of the reflex arc met therein the behaviour of a rhythmical structure. They presumed, however, that every structure in the arc was quiescent until excited to action, and, in addition, lacked that knowledge of rhythmical structures which would have enabled them to recognize the behaviour for what it really was. Accordingly they were constrained to seek in the arc for a structure which, to accord with the presumptions, could neither be muscle nor nerve, and to which they could assign this behaviour. The structure selected was the synapse. Actually they had found the evidence that central neurones have inherent rhythm, and that synapses mediate an irreversibility of conduction which may be due to the synapse being a semi-permeable membrane,³ or to a chemical transmission of the nerve impulse across the synapse. The latter view, it may be noted, is the one more in accord with what has been given above, because the hysteretical augmentation was discovered through stimulating hearts with various drugs.¹

The ascription to synapses of the properties of a rhythmical structure provided a hypothesis which was destined to work well if central neurones really had inherent rhythm. But unfortunately, so long as it was not realized what these properties actually indicated, the hypothesis automatically blinded men to any realization of how the central nervous system really works. Indeed, when medical workers become better acquainted with the

properties of rhythmical tissues this synapse theory will be realized to have been as potent a barrier to the advance of knowledge here as ever the phlogiston theory was to chemistry.

Some of the psychological implications of rhythmically active central neurones have been dealt with elsewhere, and they are Harveian in scope.³ The facts demonstrate the inherent rhythm of these neurones just as surely as they do the rhythm of retinal end-organs. And here also the facts have hitherto been adjusted to the presumption of inherent quiescence.

Inherent Rhythm

There is now indeed no reasonable doubt that physiologists in the past paid too much attention to the phenomena of the muscle-nerve preparation, and as a result were led to base many of their theories on assumptions which are indubitably invalid. They were further led thereby to hand over to medical men generally the wrong interpretative tools for assessing the significance of the facts of clinical experience. The error, however, has been made in good faith, and such an error persisted in long enough acquires both a vested interest as well as a degree of sanctity. Under those circumstances the fact that there is no evidence for the assumption of quiescence will be ignored, and instead confirmatory evidence of rhythm demanded. Accordingly it is finally pointed out that a presumption of inherent rhythm is as valid as a presumption of inherent quiescence, and that if we start out with both as possibilities we learn that the facts demonstrate inherent rhythm.

REFERENCES

- ¹ Burridge: *Excitability, a Cardiac Study*. Oxford Medical Publications, 1932.
- ² Idem: *A New Physiology of Sensation*. Oxford Medical Publications, 1932.
- ³ Idem: *A New Physiological Psychology*. Arnold, 1933.
- ⁴ Idem: *Alcohol and Anaesthesia*. Williams and Norgate, 1934.

THE INSURANCE MEDICAL SERVICE WEEK BY WEEK

The Capitation Fee—Is the Central Pool Adequate?

Reference to this matter was made in this column in the *Supplement* for May 19th. Further representations on the question have been made to the Insurance Acts Committee by the Lancashire Local Medical and Panel Committee, as follows:

"My committee note that the financial position was considered in 1918 and 1919 by Mr. S. G. Warner, President of the Institute of Actuaries, and I am to thank you for copies of his report. At the same time, my committee are not satisfied that the circumstances prevailing sixteen years after that report remain the same, and they have been given to understand that there is, or was, a very large sum representing 'unclaimed' stamps, and they suggest that this is a matter which should again be considered."

It was stated in the previous note to which reference is made, that the estimate of the central pool is made by the Government Actuary, and that every factor which can in any way affect the fairness of the estimate is taken into consideration. In view of the doubts expressed by the Lancashire Committee, it may be added that the Government Actuary is quite independent of the Ministry of Health, and is the general adviser to the Government on all matters involving actuarial considerations. National health insurance is one of these subjects—and not the least important. It is the duty of the Government Actuary to review the amount available for the medical pool each year, and he must inevitably take into account such matters as the variations in the unclaimed stamps account. The Lancashire Committee may therefore rest assured that full consideration is given to every factor affecting the amount of the medical pool.

A subsidiary point—although by no means an insignificant one—which was raised by the Lancashire Committee

was the fact that persons who had ceased to be entitled to medical benefit could become possessed of a temporary medical card available for three months after doing merely one day's work. This again cannot have escaped the notice of the Government Actuary, but as the Insurance Acts Committee has passed on the representations to the Ministry, the Department has brought the subject to the notice of the Government Actuary, and has informed the Insurance Acts Committee that the matter will receive consideration when the final computation of the central medical pool is made at the end of the year.

Splints

In connexion with the new definition of splints which has been embodied in the Medical Benefit Amendment Regulations, as follows:

Spinal jackets when required for treatment of fractures, dislocations, or diseases of the spine,

Splints, rigid, including Gooch splinting and poroplastic, but excluding walking caliper splints, surgical boots, or supporters worn with boots or shoes,

it is observed from the report of the Medical Benefit Subcommittee presented at the recent meeting of the London Insurance Committee that there has been a discussion on the matter between representatives of the National Association of Insurance Committees and officers of the Ministry of Health. In the course of that discussion a statement was made to the effect that a spinal jacket is necessarily required in connexion with treatment if it would be likely to restore or maintain an insured person's capacity for work, but that a spinal jacket might not be allowed for aesthetic purposes—for example, the case of a lump on the upper part of the spine; also that ordinary caliper splints are to be allowed, but walking caliper splints excluded; that all forms of rigid splints (including Gooch splinting and poroplastic) may be supplied other than those specifically excluded, and that the tendency to restrict what is covered by the general term of "splints" would, no doubt, give place to one under which all splints other than those specifically excluded will be ordered for insured persons.

An Irritating Demand

Correspondence which has passed between an Insurance Committee and the Ministry of Health has disclosed particulars of a case in which an insurance practitioner was giving certificates of incapacity to a patient, suffering from lumbago, who was referred after less than three weeks by the society to the regional medical officer. This officer certified that, in his opinion, the man was not incapable of work. The local agent of the approved society refused to pay the insured person the balance of sickness benefit due to him, up to the date of the regional medical officer's examination, unless he produced a final certificate from his panel doctor. On principle, the doctor declined to issue a certificate, contending that, as the approved society referred the man to the regional medical officer for examination, it ought to accept his certificate. The reply to the Insurance Committee who referred the matter to the Department is as follows:

"Approved societies have been advised that, where benefit is discontinued following upon a regional medical officer's report that, in his opinion, the insured person is not incapable of work, they might reasonably regard the production of a declaring-off certificate as unnecessary, and that, save in exceptional cases, they should be prepared to pay benefit up to the date of the regional medical officer's examination, notwithstanding the absence of a medical certificate covering the period from the date of the last intermediate certificate to the date of that examination."

The request of the agent was a vexatious one, and it clearly ought not to have been necessary to refer the matter to the Department. If an insurance practitioner is asked to put his name to a certificate which expresses not his opinion but the opinion of another medical practitioner, he is clearly justified in refusing to do anything of the kind.

Meetings of Branches and Divisions

BRITISH GUIANA BRANCH

A meeting of the British Guiana Branch was held at Georgetown on June 22nd, when the president, Dr. J. A. BROWNE, was in the chair, and fourteen members and two visitors were present. The president, in his inaugural address on "Syphilitic Affections of the Eye," drew attention to the good results obtained by the early and sustained treatment of interstitial keratitis with arsenicals and heavy metals. The treatment of all syphilitic affections, he said, was carried out in the venereal diseases clinic in co-operation with the ophthalmic out-patient department. Referring to the frequency of optic neuritis at clinics, he said that the more severe forms of this condition were in the minority. He was inclined to favour the administration in optic neuritis of as large doses of arsenicals as the patient could stand. Dr. Browne said he met with cases of optic atrophy at long intervals, and conjunctival syphilis had never been seen at his clinics.

Dr. E. G. HAMILTON PAYNE, in opening the discussion, also spoke of the pleasing results of intensive treatment with combined arsenobenzene compounds and bismuth in cases which Dr. Browne had sent to him. He said he was glad Dr. Browne had chosen the subject for his address, since there was a fairly high incidence of hereditary and acquired syphilitic infection of the eye in British Guiana. Dr. R. T. BAYLEY, Dr. E. COCHRANE, and others complimented Dr. Browne on his interesting paper.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION

A meeting of the Kensington Division was held at the Hospital for Epilepsy, Maida Vale, W., on September 28th, when Dr. W. J. O'DONOVAN delivered an address entitled "Neuroses of the Skin and their Treatment." The representatives reported on the Annual Representative Meeting. The following resolution was carried: "That the Division co-operate with the Paddington Borough Council in diphtheria immunization."

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION

A meeting of the South-West Essex Division was held at Leyton on September 25th, when Dr. P. BOYLAN, in the absence of Dr. A. Rogers, was in the chair and nine members were present. Dr. C. H. PANTING announced that the change in district medical officers for Walthamstow had been postponed until January 1st, and that the "open choice" method at 15s. a year, 10s. for six months, or 5s. a quarter was under discussion.

Mr. W. J. FOSTER then spoke of some of the legal aspects of national health insurance. He referred to the vast number of bodies concerned, and to the rise of the industrial companies to meet the needs of persons outside the friendly societies; he emphasized the fact that the control of these societies must be in the hands of the insured persons themselves. Mr. Foster dealt with the questions of accident compensation and industrial diseases, and many other matters of practical interest to the general practitioner. A warm vote of thanks to Mr. Foster for his address was proposed by Dr. PANTING, seconded by Dr. W. M. ANTHONY, and carried unanimously.

Dr. ANTHONY then gave a short report of the Annual Meeting at Bournemouth, in which he stated that the two motions put forward by the Division were strongly opposed, and so withdrawn.

NORTH OF ENGLAND BRANCH: BLYTH DIVISION

A meeting of the Blyth Division was held at Blyth on September 27th. A committee consisting of Drs. J. Brown, A. Urquhart, C. Fairlie, and W. C. Lowry was appointed to make a special effort on behalf of medical charities. The meeting discussed the needs of the various charities, and decided that most of the donations received from members of the Division should be remitted to the British Medical Association Charities Committee for distribution at the discretion of that committee.

The meetings of the Division during the new session were then considered, and it was left to the secretary to fix the actual dates. An invitation was received for members to attend the scientific meetings of the Morpeth Division.

Dr. A. FAIRLIE reported on a meeting with the Northumberland County Council concerning the "open choice" of doctor by unemployed necessitous persons. It was stated that no alterations were intended at present, but the terms of service for district medical officers were for one year only.

Dr. C. F. FAIRLIE showed two cinematograph films, one taken on a trip to Spain, and the other, taken by Dr. Lowry, during the Annual Meeting of the British Medical Association at Bournemouth in July. This terminated a very pleasant and profitable evening.

Correspondence

HOSPITAL OR HOME?

SIR,—In your *Supplement* of September 29th Dr. Arthur Beauchamp, writing on behalf of the Medico-Political Subcommittee of his Division, asks me for an explanation of a report of what I said at the annual meeting of the British Hospitals Association of Contributory Schemes.

In the first place, he is probably aware that all who speak in public, except those who are reported fully and verbatim, suffer from condensed reporting, and that a phrase that strikes the reporter's ear is picked out apart from its context, with a resultant distortion of emphasis. In the second, the necessity for condensed speaking has a cognate effect. Exigencies of time necessitate the saying of a thing in three minutes which could better be said in thirty, with the result that a statement is liable to be incomplete, and such part of it as appears in a newspaper report is certain to be incomplete. I agree, however, with Dr. Beauchamp that he and his committee may reasonably ask for a further explanation.

I intervened in a debate on a matter which I need not describe here, on which it seemed that the Association of Contributory Schemes was likely to fail to take the long view, and part of my argument was based upon the inadequacy of the number of hospital beds at present and the likelihood of that inadequacy becoming greater if the evolution of ideas on hospitals proceeds on the lines on which I believe it to be proceeding now.

There is, I believe, a growing tendency for illnesses to be treated in institutions which used to be treated at home. The use of nursing homes for this purpose, by persons of the middle and upper classes, is growing, and a similar habit by the working class is certain as and when hospital beds become available. In my view this tendency is sound: it will help to make medical services more efficient. Nursing and other ancillary services can be given more economically and more efficiently at institutions than at the patients' homes. Nowhere is team work so readily possible as at hospitals, and in medicine the value of team work is growing. Even the architecture conforms, and hence the justification for the words I used: "Houses are built to live in, not to be ill in; hospitals are built to be ill in, not live in." But they need no justification, they are a truism.

I believe this line of evolution to be in the best interests of the community, and that it should be fostered by the medical profession; and this is no new belief: I have expressed it before, though possibly it has not been reported so picturesquely. But further, I believe it to be in the best interests of the medical profession, on one condition. This condition is that, as the hospital door is opened to admit the patient who used to be treated at home, so, *pari passu*, it should also be opened to admit his medical practitioner to continue his treatment—of course, with adequate payment. It is inconceivable to me that the evolution of hospitals should incorporate the one without including the other.

I dissent, accordingly, from Dr. Beauchamp's statement that the words "The place to be ill is the hospital and not the home" are utterly absurd; though I agree that the report he quoted represents me as having spoken in a more absolute way than I think I did.—I am, etc.,

York, Oct. 3rd.

PETER MACDONALD.

The Minister of Health announces that, as the result of inquiries held under Part VI of the National Health Insurance (Dental Benefit) Regulations, 1930, he has decided that the following dentists are to be regarded as unsuitable for service in connexion with dental benefit under the National Health Insurance Acts: Mr. Arthur Bates, Glossop Road, Sheffield; Mr. Albert Farnworth, Bolton Road, Pendleton, Manchester; Mr. Joseph Reay, Hensingham, Whitehaven.

...iving attaine
Lieutenant-Colonel.
retires on retired pay.

RESERVE OF OFFICERS

ROYAL ARMY MEDICAL CORPS

Lieut.-Colonel R. K. White, D.S.O., having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

ROYAL AIR FORCE MEDICAL SERVICE

Squadron Leader T. V. O'Brien to Marine Aircraft Experimental Establishment, Felixstowe, for duty as Medical Officer.

Flight Lieutenant (Honorary Squadron Leader) J. G. Skeet relinquishes his temporary commission on completion of service, and is permitted to retain the honorary rank of Squadron Leader. (Substituted for the notification in the *London Gazette* of May 1st, 1934.)

Flight Lieutenant J. J. Corcoran has been transferred to the Reserve, Class D.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

Lieut.-Colonel G. J. Linklater, O.B.E., to be Brevet-Colonel. Captains N. F. C. Burgess, J. C. Adam, C. A. Cowie, and C. E. W. Bower to be Majors.

Captain R. Anderton resigns his commission. Lieutenants T. T. S. Hall, D. S. Valentine, G. W. Molyneux, R. A. P. Gray, D. M. Mitchell, J. D. Finlayson, R. K. Reeves, J. B. Fulton, and M. L. Formby to be Captains.

T. A. L. Davies (late Officer Cadet, University of London Contingent (Medical Unit), Senior Division, O.T.C.) to be Lieutenant.

Supernumerary for Service with the O.T.C.—E. Shipman (late Cadet Staff Sergeant, University of London Contingent, Senior Division, O.T.C.) to be Lieutenant for duty with Medical Unit, University of London Contingent, Senior Division, O.T.C.

TERRITORIAL ARMY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS

Lieut.-Colonels G. W. Craig and W. Archibald, T.D., having attained the age limit, retire and retain their rank, with permission to wear the prescribed uniform.

Majors C. H. Welch and C. A. Pannett having attained the age limit, retire and retain their rank, with permission to wear the prescribed uniform.

Captain J. N. C. Ford, from active list, to be Captain.

INDIAN MEDICAL SERVICE

Colonel G. D. Franklin, C.I.E., O.B.E., retires from the Service. Lieut.-Col. W. J. Simpson, residency surgeon, Mewar, has been appointed to officiate as resident in Mewar, and Political Agent, Southern Rajputana States, in addition to his own duties, as from August 11th and until further orders.

Lieut.-Colonel T. F. Owens retires from the Service. Majors P. Savage, Jamal-ud-din, H. G. Alexander, P. D. Chopra, and A. S. Fry to be Lieutenant-Colonels.

Major M. P. Atkinson has been appointed substantively to be an agency surgeon under the Government of India in the Foreign and Political Department, as from March 31st.

The services of Major A. C. Craighead, an officer of the Medical Research Department, are replaced at the disposal of the Army Department, as from May 27th.

Captain C. V. Falvey to be Major.

Captain W. McAdam has been appointed temporarily to officiate as an agency surgeon, and has been posted chief medical officer in the Western India States Agency, Rajkot, as from August 4th.

Lieutenant (on probation) J. J. Barton to be Captain (on probation).

Lieutenant C. B. Miller has been restored to the establishment.

Lieutenant W. J. Poole relinquishes his probation appointment.

To be Lieutenant (on probation): E. C. Rowlette (see ...)

COLONIAL MEDICAL SERVICES

The following appointments are announced: C. Bowesman

Edinburgh.
London.
Telephone number.
Medical Journal, 1934.

SCOTTISH MEDICAL SECRETARY
burgh. (Telegrams:
Edinburgh.)

IRISH MEDICAL SECRETARY
grams: Bacillus, Dublin.

Diary of Central ...

OCTOBER

- 16 Tues. Organization Committee, 2 p.m.
- 17 Wed. Medico-Political Committee, 2 p.m.
- 19 Fri. Spa Practitioners Group Committee, 11 a.m.
- 25 Thurs. Library Subcommittee, 2.30 p.m.
- 26 Fri. Public Health Committee, 2 p.m.

NOVEMBER

- 7 Wed. Council, 10 a.m.
- 9 Fri. Fractures Committee, 2.30 p.m.

DIARY OF SOCIETIES AND LECTURES

ROYAL SOCIETY OF MEDICINE

Section of Pathology.—Tues., 8.30 p.m. Presidential Address by Dr. Paul Fildes: Medical Bacterial Chemistry.

Section of Dermatology.—Thurs., 5 p.m. (Cases at 4 p.m.) Cases by Dr. H. Corsi, Dr. Louis Forman, Dr. H. Barber, and Dr. G. B. Dowling.

Section of Neurology.—Thurs., 8.30 p.m. Discussion: Unsettled Questions of Neurosyphilis. Opener, Dr. S. A. Kinnier Wilson. Followed by Mr. J. E. R. McDonagh, Dr. Buckley Sharp, Dr. D. Nabarro, Dr. W. Nicol, Dr. K. Paddle, Dr. L. C. Cook, Mr. Lindsay Rea, and Mr. Sydney Scott.

Section of Physical Medicine.—Fri., 5 p.m. Presidential Address by Dr. J. Barnes Burt: Some Problems in the Study of Sciatica.

Section of Obstetrics and Gynaecology.—Fri., 8 p.m. Short Communications by Dr. Reece and Dr. C. R. Croft. Paper by Professor J. Preston Maxwell: Osteomalacia and Foetal Rickets.

Section of Radiology.—Fri., 7 p.m. Presidential Address by Dr. F. Herniman-Johnson: The Radiologist as Physician.

BRITISH INSTITUTE OF RADIOLOGY, 32, Welbeck Street, W.—Thurs., 8 p.m. Installation of President, etc. Paper by Major H. E. P. Yorke: "Upright" Radiography, with Special Reference to the Investigation of the Nasal Sinuses. Fri., 11 a.m. to 1 p.m., Visit to Marie Curie Hospital. 5 p.m., Discussion on the Future of Radiology, to be opened by Dr. Ffrangcon Roberts.

BRITISH RED CROSS SOCIETY'S CLINIC FOR RHEUMATISM, Peto Place, N.W.—Thurs., 8.30 p.m. Mr. J. James: Dental Sepsis and its Significance in Rheumatism.

CHELSEA CLINICAL SOCIETY.—At Hotel Rembrandt, Thurloe Place, S.W., Tues., 8 p.m. Annual Dinner.

EUGENICS SOCIETY.—At Linnean Society's Rooms, Burlington House, Piccadilly, W., Tues., 5.15 p.m. Professor F. C. S. Schiller: Ant Men or Supermen.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 26, Portland Place, W., Thurs., 8.15 p.m. Professor W. W. Jameson: Medical Services at Home and Abroad.

ROYAL INSTITUTE OF PUBLIC HEALTH AND INSTITUTE OF HYGIENE.—At 28, Portland Place, W., Wed., 3.30 p.m. Dr. Henry Yellowlees: Prevention of Nervous Disorders.

SOUTH-WEST LONDON MEDICAL SOCIETY.—At Bolingbroke Hospital, Bolingbroke Grove, S.W., Wed., 9 p.m. Dr. Russell J. Reynolds: Cineradiography.

POST-GRADUATE COURSES AND LECTURES

...SHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, ...mpole Street, W.—*Medical Society of London*, 11, Chandos ... W.: Tues., 2.30 p.m., Lecture-Demonstration by Dr. ... on Giddiness. *Metropolitan General Hospital*.

Leeds General Hospital, Demonstration of ...
 ... Hospital, 49, Leicester ...
 ... Dowling, Seborrhoea and ...
 ... Dr. I. Muende, Histo ...
 ... C.—Mon. to Fri., 2 p.m., ...
 ... Dr. E. A. Carmichael, ...
 ... Spinal Fluid. Tues. and Thurs., 3.30 ...
 ... Brown, Spinal Reflexes. Wed., 3.30 p.m., ...
 ... Clinical Demonstration. Fri., 3.30 p.m., Dr. ...
 ... Hart, The Psychoneuroses.
 UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, University Street, W.C.—Mon., 4.15 p.m., Professor Charles Singer, Hippocrates.
 WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 2 p.m., Medical and Surgical Clinics, Operations. Mon., 10 a.m., Medical and Surgical Wards, Skin Clinic; 2 p.m., Surgical Wards, Eye and Gynaecological Clinics; 4.15 p.m., Lecture, Mr. Green-Armytage, The Thirty-sixth to Thirty-seventh Week of Pregnancy. Tues., 10 a.m., Medical Wards; 11 a.m., Surgical Wards; 2 p.m., Throat Clinic; 4.15 p.m., Lecture, Dr. Konstam, Diabetes Mellitus. Wed., 10 a.m., Medical Children's Clinic and Wards; 2 p.m., Eye Clinic and Medical Wards. Thurs., 10 a.m., Neurological and Gynaecological Clinics; 11.30 a.m., Fracture Demonstration; 2 p.m., Eye and Genito-urinary Clinics; 4.15 p.m., Lecture, Mr. Roche, Stone in the Urinary Tract. Fri., 10 a.m., Skin Clinic; 12 noon, Lecture on Treatment; 2 p.m., Throat Clinic. Sat., 10 a.m., Medical and Surgical Wards, Children's and Surgical Clinics. The lectures at 4.15 p.m. are open to all medical practitioners without fee.
 LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTE-NATAL CLINICS.—Royal Infirmary: Mon. and Thurs., 10.30 a.m. Maternity Hospital: Mon., Tues., Wed., Thurs., and Fri., 11.30 a.m.
 MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.15 p.m., Dr. W. J. S. Reid, the Borderline Patient.
 MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Mr. C. Roberts, Medico-Legal Practice regarding Claims for Injuries. Fri., 4.15 p.m., Mr. J. Morley, Demonstration of Surgical Cases.

VACANCIES

ALTRINCHAM GENERAL HOSPITAL.—(1) Senior H.S. (2) J.H.S.
 BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—(1) Senior H.S. (2) J.H.S.
 BARKING BOROUGH.—Assistant M.O.H. and Assistant School M.O. (female).
 BATH: ROYAL UNITED HOSPITAL.—Out-patient and C.O. (male, unmarried).
 BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—(1) H.P. (2) H.S. Males.
 BIRMINGHAM CITY.—C.O. (male) at Selly Oak Hospital.
 BRIGHTON COUNTY BOROUGH.—J.R.M.O. (male) at Sanatorium and Infectious Disease Hospital.
 BRIGHTON: ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—H.S. (male).
 BRISTOL GENERAL HOSPITAL.—(1) Hon. P. (2) Hon. Assistant P.
 BRISTOL ROYAL INFIRMARY.—(1) Hon. S. (2) Hon. Assistant S.
 BURNLEY COUNTY BOROUGH.—(1) J.R.M.O. and (2) R.S.O. (male) at Municipal Hospital.
 CANCER HOSPITAL (FREE), Fulham Road, S.W.—Full-time Assistant Radium Officer.
 CAPETOWN UNIVERSITY.—Junior Assistant in Pathology.
 CHESTER ROYAL INFIRMARY.—H.S. (male).
 CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL.—R.S.O. (male).
 CHILDREN'S HOSPITAL, 30, College Crescent, N.W.—R.M.O.
 CHORLEY AND DISTRICT HOSPITAL.—H.S.
 COVENTRY AND WARWICKSHIRE HOSPITAL.—R.H.S. (male).
 DEWSBURY AND DISTRICT GENERAL INFIRMARY.—H.S. (male).
 DUBLIN: HOUSE OF RECOVERY AND FEVER HOSPITAL.—H.P.
 EASTBOURNE: PRINCESS ALICE HOSPITAL.—R.H.S. (male).
 EASTBOURNE: ROYAL EYE HOSPITAL.—H.S. (non-resident).
 GLASGOW: WESTERN INFIRMARY.—Full-time Assistant Radiologist.
 GROCERS' COMPANY, E.C.—Three Medical Research Scholarships.
 GUY'S HOSPITAL, S.E.—Demonstrator of Anaesthetics.
 HAMPSHIRE GENERAL AND NORTH-WEST LONDON HOSPITAL.—H.S. (unmarried).

... (a) Pri ...
 ... Margate, (b) Grove ...
 ... (d) St. Mary Islington Hosp ...
 ... (f) St. George-in-the-East Ho ...
 ... Hospital, Rotherhithe, (h) St. ...
 ... End Hospital, E. (4) A.M.O. (...
 ... N., (b) North-Western Hospital, ...
 ... (male), (d) Pinewood Sanatori ...
 ... George V Sanatorium, Godalming. ...
 ... for Children, Carshalton. All unmarried.
 LURGAN UNION, Co. Armagh.—R.M.O.
 MANCHESTER: ST. MARY'S HOSPITALS.—Resident Obstetric Officer for Whitworth Street West Hospital (Maternity).
 MARKET DRAYTON: CHESHIRE JOINT SANATORIUM.—(1) R.H.P. (male). (2) Third A.M.O.
 NEWPORT: ISLE OF WIGHT COUNTY MENTAL HOSPITAL.—Clinical Assistant (male, unmarried).
 PALMERSTON NORTH HOSPITAL, New Zealand. Medical Superintendent.
 PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—C.O. (male).
 PRESTON: COUNTY MENTAL HOSPITAL, Whittingham.—R.J.A.M.O. (male).
 QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.—R.M.O.
 READING: ROYAL BERKSHIRE HOSPITAL.—(1) H.P. (2) H.S. for Special Departments (Ear, Nose, and Throat, Ophthalmic X-ray). (3) C.O. Males.
 ROCHEDALE INFIRMARY AND DISPENSARY.—J.H.S. (male).
 ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Assistant Conservator of the Museum.
 ROYAL DENTAL HOSPITAL OF LONDON, 32, Leicester Square, W.C.—(1) Hon. Pathologist. (2) Two Part-time House Anaesthetists (non-resident) for In-patient and Out-patient duties.
 ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Great Portland Street, W.—Hon. Assistant S.
 ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.—H.P. (male).
 ST. GEORGE'S HOSPITAL, S.W.—(1) S. (2) Assistant S.
 ST. HELENS HOSPITAL.—J.H.S. (male).
 ST. JOHN CLINIC AND INSTITUTE OF PHYSICAL MEDICINE, Ranelagh Road, S.W.—Hon. Manipulative Orthopaedic S.
 ST. MARY'S HOSPITAL, W.—C.H.S.
 ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.—Second Assistant to Surgical Unit.
 ST. THOMAS'S HOSPITAL.—(1) Associate Plastic S. (2) Resident Anaesthetist.
 SHEFFIELD CITY.—J.A.M.O. (male) at City General Hospital.
 SOUTHAMPTON COUNTY BOROUGH.—Part-time Ear, Nose, and Throat S. (male).
 SOUTHAMPTON: FREE EYE HOSPITAL.—Hon. Ophthalmic S.
 SOUTHEAST-ON-SEA COUNTY BOROUGH.—Deputy M.O.H.
 SOUTHEAST-ON-SEA GENERAL HOSPITAL.—H.P. (male).
 UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—Hon. Anaesthetist.
 VENTNOR: ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—J.A.R.M.O. (male, unmarried).
 WREXHAM AND EAST DENBIGHSHIRE WAR MEMORIAL HOSPITAL.—Hon. Ophthalmic S.
 CERTIFYING FACTORY SURGEON.—The appointment at Crowle (Lincolnshire) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1, by October 23rd.

This list is compiled from our advertisement columns, where full particulars are given. To ensure notice in this column advertisements must be received not later than the first post on Tuesday mornings. Further unclassified vacancies will be found in the advertising pages.

APPOINTMENTS

CHALMERS, D. K. McL., M.B., Ch B.Glas., Certifying Factory Surgeon for the Rickmansworth District (Hertfordshire).
 DAVIDSON, Norman, O.B.E., F.R.C.S.Ed., Consulting Surgeon, Kilmarnock Infirmary.
 OWEN, Donald, M.D., M.R.C.P., D.T.M., Honorary Assistant Physician, Liverpool Royal Infirmary, and Demonstrator in Medicine, University of Liverpool.
 STANSFIELD, F. R., M.D., F.R.C.S., M.C.O.G., Assistant Gynaecologist, East Suffolk and Ipswich Hospital.
 SHEFFIELD ROYAL HOSPITAL.—Honorary Consulting Surgeons: Graham Simpson, F.R.C.S., A. Garrick Wilson, M.C., F.R.C.S., Honorary Surgeons: J. B. Ferguson Wilson, M.S., F.R.C.S., Blacow Yates, F.R.C.S. Honorary Assistant Surgeon: Anderson, F.R.C.S. Surgical Registrar: W. Hynes, C.S. Resident Surgical Officer: Judson T. Chesterman.

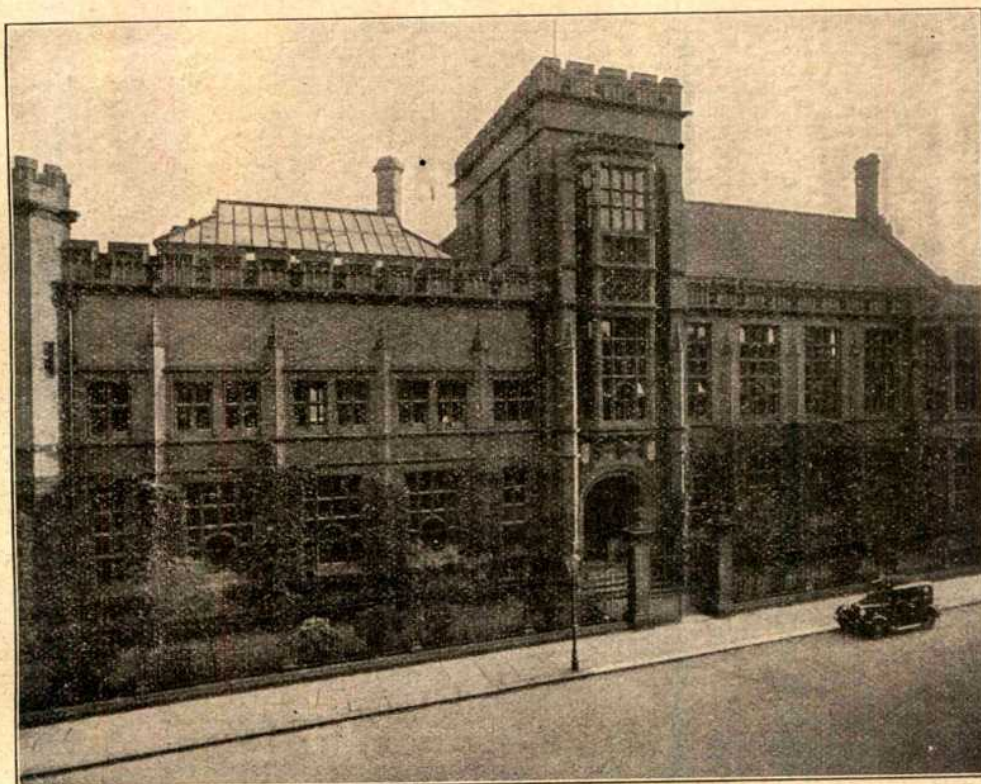
BIRTHS, MARRIAGES, AND DEATHS

CENTENARY OF THE UNIVERSITY OF DURHAM COLLEGE OF MEDICINE

CELEBRATIONS IN NEWCASTLE AND DURHAM

On October 4th and 5th the Newcastle School of Medicine celebrated the hundredth anniversary of its foundation. Coeval with the federal University of which it is one of the most flourishing units, it began its work in 1834 in a humble fashion. The present building, dating back to 1888, is the third home of the school, and plans are already far advanced for the erection of a new College in close proximity to the Royal Victoria Infirmary, since for some years the number of applicants for admission has considerably exceeded the capacity of the laboratory accommodation in several departments, and even continued duplication of classes has failed to meet the needs

from other schools unable to send personal representatives, including a congratulatory cable from the Dean of the Faculty of New York. Dr. E. K. Le Fleming, Chairman of Council, personally represented the British Medical Association. The Chancellor of the University of Durham, Lord Londonderry, detained in London by urgent affairs, sent a message of congratulation and good wishes. The Visitor of the University, the Lord Bishop of Durham, and the chief officers of the sister colleges at Durham and Newcastle were present, together with the Lord Mayor of the city and a distinguished assemblage from the city and the counties of Northumberland and Durham.



UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, NEWCASTLE-UPON-TYNE: NORTH FRONT.

of students and permit all eligible candidates to enter the school. On Thursday, October 4th, the College was thrown open to visitors. The chief features of interest were historical exhibits by Professor Grey Turner, Dr. W. D. Arnison, and Mr. F. C. Pybus; and demonstrations in the departments of anatomy, biology, physiology, chemistry, and pathology.

OFFICIAL RECEPTION

The president, Sir Thomas Oliver, who has been associated with the College for fifty-five years since his appointment on the teaching staff in 1879, welcomed guests at the official reception in the evening. Congratulations were offered in person by the Presidents of the Royal College of Surgeons of England, the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow, the Governor of the Apothecaries' Hall of Dublin, the President of the British College of Obstetricians and Gynaecologists, the Deans of the Faculties of Medicine of Aberdeen, Oxford, Leeds, and Sheffield, the Provost of the School of Medicine of the University of Wales; whilst messages were received

Among the many messages from old graduates unable to attend were notably those of Dr. Milner Moore (at the age of 95 years) and Dr. Alfred Cox. The scene in the Great Hall of the College was enlivened by the vivid colour of the academic costumes of graduates and the representative guests. Alternative attractions were provided in the way of a lantern lecture on the history of the College by Professor Grey Turner, an anatomical film demonstration by Professor Green and Dr. James Whillis, and a picturesque display of the local traditional sword-dancing by a team, whose age averaged 60 years, led by a veteran of 77 years. Later, guests and graduates and students danced till the early hours.

On Friday, October 5th, at Newcastle-upon-Tyne, old graduates, under the guidance of Dr. W. D. Arnison, visited the Old Infirmary, now manufacturers' premises, identifying where possible the scenes of their hospital life. Others visited the various hospitals associated with the school, the Bacteriological Department, and the Public Health Laboratories. Sir Francis Acland, Chairman of the Dental Board of the United Kingdom, and Sir Holburt Waring were among the visitors to the Sutherland Dental School of the College.

CONVOCAATION FOR HONORARY DEGREES

Guests were then transported by private cars and omnibuses to Durham, where in the Great Hall of the Castle luncheon was served to over two hundred guests, including the Chancellor, who had flown from London, the Visitor, the Vice-Chancellor, the Minister of Health, Sir Francis Acland, Sir Holburt Waring, Dame Janet Campbell, and Lieut.-General Hartigan, Director-General of the Army Medical Services.

A special convocation followed in the Chapter House of Durham Cathedral, with the Chancellor presiding, when honorary degrees were conferred. Sir Hilton Young, the Minister of Health, was presented by Sir Robert Bolam, and Sir Holburt Waring, P.R.C.S., by Professor Grey Turner, for the degree of D.C.L. Sir Francis Dyke Acland, Chairman of the Dental Board, was presented by Sir Thomas Oliver, and Dame Janet Campbell, M.D., by Professor Ranken Lyle, for the Degree of Doctor of Hygiene. Lieut.-General J. A. Hartigan, D.G.A.M.S., and Dr. Joseph W. Leech, M.P., were presented by Professor Grey Turner for the degree of Doctor of Surgery, and Dr. William Robinson of Sunderland for the same degree by Professor Thomas Beattie. Lastly, Dr. W. D. Arnison, joint author with Professor Grey Turner of a commemorative volume, *The Newcastle-upon-Tyne School of Medicine, 1834-1934*, was presented for the honorary M.A. by Professor C. E. Whiting. This handsome book, with abundant pictures,¹ forms an interesting memento

¹ *The Newcastle-upon-Tyne School of Medicine, 1834-1934*. By G. Grey Turner, assisted by W. D. Arnison. Newcastle-upon-Tyne: Andrew Reid and Co., Ltd. 1934. (Pp. 221; illustrated. 10s. net.)

for those who joined in the centenary proceedings; it is also a mine of information about the rise of a great medical school, with many biographical sidelights upon the leaders of the profession in Newcastle during the past hundred years.

THE BISHOP'S ADDRESS

The closing ceremony was a magnificent commemorative service in Durham Cathedral, at which the Visitor of the University, Dr. Hensley Henson, Bishop of Durham, gave an apt and inspiring address, thus rounding off the part he had played in a memorable occasion. "Perhaps we may distinguish," he said, "three main reasons why the College of Medicine, as it reviews the first complete century of its existence, may in its corporate capacity offer thanks to Almighty God. In the first place, there stands the continuance throughout the whole period of that settled civil order and complete liberty of thought and teaching which are indispensable conditions of scientific research and academic teaching. In the second place, you have to thank God for a succession of great teachers who have advanced medical and surgical science to its present amazing altitude. In the third place, you thank God for the continuing prosperity of the College. It has grown from small beginnings to a position of assured importance in the national system. Its students are found in every part of the Empire, exercising their noble and beneficent profession. In Newcastle itself the College has had to its hand a teaching instrument of the highest value in a famous hospital, which certainly takes a place among the greater hospitals of England."

THE LEAGUE AND TRAFFIC IN OPIUM

[FROM OUR GENEVA CORRESPONDENT]

The Council of the League of Nations, on September 24th, received the voluminous report of the permanent Central Opium Board—a document containing over a hundred foolscap pages of statistics. The drug traffic may not be controlled, but it is certainly fully analysed. The representative of Poland, M. Beck, in presenting the report to the Council, drew attention to what he considered the most important conclusion, that while in 1932 there was a general decrease in the manufacture of the three main drugs—morphine, diacetylmorphine, and cocaine—in 1933 there was a considerable increase in the manufacture of the first (11.52 per cent.), and a slight increase in the manufacture of the second and third. There had been, however, a marked decrease in the reported world consumption of diacetylmorphine (10 per cent.), and a less marked decrease in that of cocaine (4 per cent.).

INTERNATIONAL CONTROL OF NARCOTICS

M. Beck said that it was gratifying to learn that certain Governments whose countries are producers and exporters of large quantities of raw opium, such as Turkey and Persia, are showing an ever-increasing spirit of collaboration, and endeavouring to conform more and more with the methods of the Board; but he regretted that the international control over the raw materials for the manufacture of cocaine was seriously hampered by the fact that certain countries, including some of the main producers of coca leaves, do not send in statistics. He added that the Board was justifiably concerned at the considerable increase in its duties and responsibilities resulting from the application of the convention of 1931 for the limitation of the manufacture and regulation of the distribution of narcotic drugs.

From the battalions of statistics presented in the report it appears that the manufacture of morphine and of cocaine is diminishing in Germany and France, and that of morphine is increasing somewhat in Belgium and Italy. In the United Kingdom the manufacture of morphine in 1933 was to the extent of 1,873 kilograms, comparing with

1,292 in 1932. The manufacture of cocaine in this country is also rising slightly, reaching 427 kg. in 1933, having increased every year since 1929, when it stood at 238 kg. The largest manufacturer of morphine last year was the United States (7,459 kg.), and the largest manufacturer of cocaine was Japan (920 kg.). The greater part of the morphine produced in all countries is used in the manufacture of substances not covered by the convention. Thus, in the United Kingdom, out of the 1,873 kg. manufactured last year 111 was used in the manufacture of diacetylmorphine, 848 in the manufacture of non-convention substances, and 914 kg. remained as morphine. Some very curious facts are elicited by a glance at these tables. For example, Latvia and Esthonia are the largest consumers of galenical preparations of Indian hemp, each using 17 kg. per million inhabitants, whereas the United Kingdom consumes 9 kg. per million and France only 2 kg. The largest consumer of cocaine is Japan (14 kg. per million inhabitants), and in Europe, apart from an enormous consumption in Iceland, which may be disregarded, the largest consumer is France (nearly 9 kg.), followed closely by Belgium, Austria, and Latvia. The consumption in the United Kingdom is just upon 5 kg. per million.

MORPHINE FROM POPPY STRAW

In the discussion on dangerous drugs which took place in the Fifth Committee of the Assembly reference was made to the new Hungarian method of morphine extraction from poppy straw.¹ The Hungarian Government has the right to use this process, which enables it to assist the Hungarian peasants, and results in a reduction in the price of morphine. The representative of Poland said that his country also was interested in this new method, and would take it into consideration for the manufacture of codeine. If the process proved satisfactory from the economic standpoint it would be adopted, for it also carried advantages from the agricultural point of view. If several countries adopted the process smuggling would be reduced to zero, as every country would become quasi-independent of opium imports; on the other hand, correspondingly greater attention would have to be paid to internal supervision.

¹ *British Medical Journal*, September 29th, 1934, p. 604.

British Medical Journal

SATURDAY, OCTOBER 13th, 1934

ADVANCES IN TREATMENT OF TROPICAL DISEASE

A review of the work of the Calcutta School of Tropical Medicine since 1920 has been written by the Director, Lieut.-Colonel R. Knowles, I.M.S., and this appears as a supplement to the annual report for 1933. The review shows a record of useful and important activities in all branches of tropical medicine, but it is of particular interest in that it demonstrates what remarkable therapeutic advances have been made in recent years in tropical diseases, and what an important part the Calcutta school has played in these advances. The treatment of kala-azar is perhaps the most sensational of the successes. This disease invaded India some centuries ago, and spread over Bengal and Assam during the latter years of the nineteenth century. No cure was known, and the mortality was not less than 70 per cent. In 1915 treatment by antimony tartrate was discovered in Italy, and Sir Leonard Rogers introduced it into India. This treatment was brilliantly successful, but was prolonged, since thirty injections spread over three months were required, and a mortality of 10 to 20 per cent. still occurred. Since 1920 intensive investigations have been carried out with organic pentavalent antimonials, and now it is possible to cure kala-azar with eight injections, and the mortality is less than 5 per cent. As a result of these advances mass treatment properly carried out leads to the eradication of the disease in an infected area.

In the case of malarial therapy the advances, although not sensational, have been extremely important. In 1920 quinine was regarded as the sole remedy. Since then the Calcutta school has demonstrated that the total alkaloids of cinchona bark constitute an equally efficient and cheaper remedy, and has helped to establish the value of plasmoquine for destroying sexual forms of the parasite and thus rendering the patient non-infective to mosquitos. Atebrin, a synthetic compound which is a possible rival to quinine in the treatment of malaria, was tested fully in the school before being released for sale, and the most recent reports show that the drug is superior to quinine in cases of malignant tertian, and is indicated in special conditions, such as quinine idiosyncrasy, blackwater fever, and pregnancy. The school has also performed a most important service in discovering a form of monkey malaria. This should prove of great value in the experimental study of malarial therapy.

Hookworm infection is another disease of considerable economic importance in the therapy of which great progress has been made in the period under review. In 1922 the use of carbon tetrachloride was introduced into India, but the drug was found to be undesirably

toxic to Indian populations, and from 1924 onwards investigations have been pursued on the use of carbon tetrachloride combined with oil of chenopodium. Experimental work during the last year has shown that carbon tetrachlorethylene is less toxic than carbon tetrachloride, and a combination of carbon tetrachlorethylene with oil of chenopodium is recommended as the best treatment for hookworm infection. These researches on intestinal helminths have led to advances in the treatment of a variety of infections. It has been shown that Indian santonin is just as effective as the very expensive Russian santonin in ascaris infections, and hexyl-resorcinol and carbon tetrachloride have both been found to be efficacious against tapeworm.

In the case of amoebic dysentery the outstanding advance in treatment was the introduction of emetine injections by Sir Leonard Rogers in 1912. This drug has been very successful in acute cases, but in chronic cases and in carriers it is much less satisfactory. The alkaloids of kurchi bark, when first investigated, gave excellent results, but later results were disappointing owing to errors in the preparation of the remedy. Last year, however, the drug carbarsone was found to be of great value in this condition. This organic arsenical was originally produced by Ehrlich in 1909, and Leake demonstrated its amoebicidal action a few years ago. The results obtained in Calcutta have been very satisfactory, and Colonel Knowles believes that its introduction may prove one of the most notable of recent advances in tropical medicine.

The therapeutic advances we have mentioned represent only a small proportion of the valuable work carried out by the Calcutta School of Tropical Medicine, but they show clearly enough the remarkable rate of progress in the treatment of tropical diseases. The outstanding feature of the last fifteen years has been the introduction of synthetic chemotherapeutic agents. For example, this report contains an account of the successful use of the following: neostibosan, plasmoquine, atebrin, carbarsone, and hexyl-resorcinol. We have to acknowledge with regret that not one of these compounds was discovered in this country. The Calcutta school is doing splendid experimental therapeutic work, and it is a pity that it should be forced to obtain so many of its weapons from outside the British Empire.

INHIBITORY HORMONES

The number of active hormones which are nowadays considered to be present in the circulating blood must often seem not a little bewildering. The blood is by far the most complex fluid we know, and the co-existence in it of hormones, enzymes, antibodies, proteins, carbohydrates, lipoids, salts, cells, and metabolic products presents a picture which is well-nigh impossible to grasp in its entirety. Each of these substances, whether it exists in chemically large quantities or only in pharmacologically or histologically recognizable amounts, reaches its appointed place and exercises its specific function apparently unaffected by

the presence of the others. By what remarkable circumstances this is made possible it is hard to conjecture. Are the physico-chemical conditions of the blood such that no important interaction can occur between the hormones and other physiologically active principles, or are the structures of all these bodies such that they cannot interact chemically? The latter seems the less likely view, but as we are yet ignorant of the chemical structure of the greater number of hormones we cannot be certain. Of course, important chemical reactions do occur in the blood, as, for example, the mechanism of transference of oxygen and carbon dioxide, and the buffering of the blood; but even in these cases there is no important change in the basal structure of the interacting bodies; indeed, the value of these reactions lies in their ability to maintain the *status quo*.

This tendency to keep the state of the blood within relatively very narrow limits of variation is one of the most remarkable of biological phenomena. Not only is this the case for the familiar chemical constants, but it is even more striking as regards the bacterial antibodies. With the latter we are dealing with a type of reaction of the organism which is not usually considered from the physiological point of view as an instance of what is called "homeostasis." We think, however, that it should be so regarded, and some recent work of Collip¹ would appear to make it necessary to extend the conception of homeostasis even further. Collip points out that evidence is accumulating which shows that substances are produced in the body exercising an inhibitory action on certain hormones. Of the antagonistic action of certain hormones some knowledge has already been gained. The familiar antagonisms of insulin and adrenaline, of insulin and the diabetogenic component of the anterior pituitary, are well known. Less generally recognized is the resistance of certain animals (the rabbit, for example) to parathormone, but every clinician is familiar with the high tolerance of certain subjects to thyroid. The increased resistance of subjects with a high temperature to insulin is also appreciated, though not explained. These examples engender a suspicion that the body in certain circumstances can oppose the action of a hormone. Collip has shown that long-continued administration of the thyreotropic hormone of the anterior pituitary led to a condition of resistance and non-reactivity, and—a most important point—that the serum of the resistant animal when injected into a normal animal produced a similar condition of resistance in the latter. It was further shown that the serum of a horse treated for some months with the growth factor of the pituitary can inhibit the effect of the latter on the hypophysectomized rat.

Other instances of the presence of inhibitory hormones have been described, and Professor Collip considers two ways of regarding the phenomenon. Either the administered hormone and inhibitory substance are related as antigen and antibody, or else the inhibitory substance is a normal constituent of the blood which

is normally and physiologically balanced against the corresponding hormone so that it is masked. Collip takes the latter view and shows that it is borne out by clinical and laboratory experience. The repeated injection of hormone extracts will call forth the production of more and more inhibitory substances, so that each succeeding administration of hormone becomes proportionately less effective. There emerges from these considerations what Collip has called the "principle of inverse response"; this he defines as follows: "The responsiveness of an individual to administered hormone varies inversely with the hormone content or production of the individual's own gland." The author is careful to restrict his theory as yet to certain hormones. Nevertheless, it offers to over-energetic therapeutists a salutary warning of the need for caution in treating hypoglandular states, for the stimulation of the production of inhibitory bodies may defeat the very object sought for. The possibility of inhibitory sera in the treatment of hyperglandular states opens up a fascinating field of research. Particularly important will be the determination whether in any given functional endocrine imbalance we are dealing with an excess of inhibitory substance (hypoglandular state) or a failure to produce adequate amounts of inhibitory substance (hyperglandular state). No evidence is as yet available as to the nature of the antagonism of the inhibitory hormones, but it is clear that the sum of the constituents in the blood has not yet been reached.

ARTIFICIAL RADIOACTIVITY

During the last two years a series of remarkable discoveries has greatly changed the aspect of physical science. The growth of scientific knowledge is, of course, a connected process, and the new discoveries are an outcome of the direction of previous research. But the observer of the progress of physical science finds it easier to comprehend if he can recognize some outstanding points. One of these was the discovery of the neutron in 1932. Rutherford and his colleagues had searched for the neutron before 1920, and in his Bakerian Lecture of that year Rutherford forecast the properties of the neutron in one of the most remarkable passages in contemporary physics. Thus the idea of a neutron was not strange, but the recognition of its existence in 1932 had a stimulating effect on the imagination of scientists. Soon afterwards the electro-mechanical method of disintegrating atoms was discovered, and in America Anderson published the first experimental evidence for the existence of the positive electron. Then, early in 1934, M. and Mme Curie-Joliot demonstrated the possibility of manufacturing radioactive substances. This striking result arose out of their researches on methods of producing positive electrons. They found that when boron and other substances were bombarded with the swift alpha particles, or nuclei of helium atoms, emitted from the naturally radioactive substance polonium, they emitted positive electrons. The investigators were inspired to test whether the emission of the positive electrons from the boron continued after the polonium source of bom-

¹ *Ann. Int. Med.*, July, 1934, p. 10.

barding particles had been removed. They found that the boron continued to emit positive electrons for a considerable period after the removal of the polonium, and that the number of positive electrons decreased with the time, according to the same law as that describing the decay of a radioactive substance. They concluded that atoms of boron had been transmuted by the bombarding particles from polonium into radioactive atoms. Chemical treatment of the boron showed that the radioactive atoms produced in it consisted of a form of nitrogen. They named this synthetic radioactive nitrogen "radio-nitrogen." A few weeks later Cockcroft and Walton demonstrated that radio-nitrogen could be manufactured in their electrical apparatus by bombarding carbon with protons, or nuclei of hydrogen atoms. The production of a radioactive substance by shooting hydrogen atoms at a piece of carbon in an electrical apparatus is remarkable, as radioactivity is produced out of two of the commonest substances in nature, merely with the assistance of an electrical apparatus. These results provoke a multitude of ideas and suggestions. But some more details of the experiments must be appreciated before they can be seen in proper perspective. It is important to realize that the sort of radioactivity discovered by the Curie-Joliot is rather different from natural radioactivity. Their radio-nitrogen emits positive electrons when it disintegrates. Now natural radioactive substances emit wave radiations, the nuclei of helium atoms, and negative electrons. (Blackett and others have recently shown that some of the natural radioactive substances emit positive electrons, but in relatively small numbers.) No one as yet knows what the medical effects of rays consisting of positive electrons may be. So the old knowledge of the effect of radioactive rays may apply only partially to the new sort of radioactivity. Also, the Cockcroft and Walton apparatus, and similar machinery, is not as yet efficient in the physical sense; and it is far from being a commercially economical machine. Artificial radioactivity is only a few months old, and so far the chief results of its discovery lie in the stimulus to experimental research, and in the reformulations of the conceptions of the structure of matter. Following Rutherford's suggestion of 1920—that neutrons might be expected to penetrate the nuclei of atoms with special ease, and produce various transmutations—Professor Enrico Fermi of Rome has recently obtained spectacular experimental results. Physicists are particularly fascinated by this event, as Fermi, who is only 33 years of age, is considered to be among the leading half-dozen theoretical physicists in the world. His sudden appearance as a brilliant experimenter is dramatic. Fermi has found that the atoms of thirty or forty of the chemical elements can be transmuted into radioactive atoms by bombardment with neutrons. The wholesale character of the effect stretches the imagination beyond its normal limit. Fermi finds that heavy atoms as well as light atoms are transmuted. If uranium is bombarded with neutrons its atoms appear to be transmuted into atoms of an entirely new type. Fermi suggests that the new element has an atomic number of ninety-three. There is some chemical evidence that the atoms have the properties to be expected of an element of atomic number ninety-three. If this research is confirmed Fermi will be the first man, not to discover a chemical element, but to synthesize a new one.

X-RAY AND RADIUM PROTECTION

With the object of arresting the sequence of casualties to x-ray and radium workers, the British X-Ray and Radium Protection Committee was formed in 1921, as the result of joint action between the Royal Society of Medicine, the Röntgen Society, the British Association for the Advancement of Radiology and Physiotherapy (now the British Institute of Radiology, incorporated with the Röntgen Society), the Institute of Physics, the Radium Institute, London, and the National Physical Laboratory. The personnel of the committee was afterwards widened to include representatives from the provincial schools. The committee issued its first recommendations in July, 1921. Successive revised reports followed in December, 1923, and May, 1927. At the instance of the British committee, international recommendations for x-ray and radium protection were adopted at Stockholm in 1928 by the second International Congress of Radiology. These were largely based on the British proposals. The problem of adequate protection for the x-ray worker has been substantially eased by the introduction of the self-protected tube and more recently by the "shock-proof" tube and equipment. Account is taken of this in the latest (fourth) report of the British committee, which follows in the main the form of the international recommendations, and contains a number of changes and additions based on the experience of the committee and of the National Physical Laboratory in its inspection and testing work carried out in association with the committee. Copies of the report may be had from the honorary secretaries of the Protection Committee at 32, Welbeck Street, W.1, or the director, National Physical Laboratory, Teddington, Middlesex.

CHEST INJURIES AND PULMONARY TUBERCULOSIS

In view of the legislation providing for war pensions and workmen's compensation, the determination of the exact part played by trauma in the development of a relatively common disease like pulmonary tuberculosis assumes great practical importance. In a recent review of the subject N. N. Stoichitza¹ states that trauma as the direct cause of phthisis was considered not at all rare until quite modern times, but that owing to the absence of bacteriological confirmation all accounts dating anteriorly to 1882 must clearly be interpreted with caution. The Great War provided ample material for further study. It was shown that, in this connexion, two types of injury of the thorax had to be differentiated. Thus, penetrating wounds probably never gave rise to phthisis, perhaps because they generally involve important vessels and result in death within a short time. Non-fatal injuries of this type may, however, be followed by pulmonary tuberculosis after a long interval, and this is accounted for by lowering of the general resistance caused by continued suppuration and the prolonged stay in hospital. Contusions of the chest, on the other hand, are rarely directly responsible for the development of pulmonary tuberculosis. Stoichitza mentions the various theories put forward to explain the mechanism. The most logical explanation would appear to be as follows. The shock at the moment of impact causes reflex

¹ *Presse Méd.*, June 30th, 1934, p. 1051.

closure of the glottis, so that rupture of the distended lung tissue occurs at the level of the blow, causing haemoptysis immediately or soon afterwards. If this rupture takes place in the neighbourhood of a latent tuberculous focus (most commonly situated in the hilar region) the injured area provides an excellent breeding ground for the tubercle bacilli already present. To establish direct cause and effect in these cases certain conditions must be fulfilled. The patient should have been in good health before the accident, and an x-ray photograph taken immediately before or after must show no evidence of active tuberculous disease. Apyrexial haemoptysis, indicating rupture of lung, should have occurred immediately or soon after the injury, and there should be a continuity of symptoms from that time onwards. The tuberculous lesions, which are generally severe and of poor prognosis, should develop at the level of the injury and within six months at the most from the date of the accident. Still further to exclude the possibility of coincidence, the patient should not have been exposed to massive contagion or to conditions which may have so lowered his general resistance as to be in themselves the cause of endogenous reinfection. The author then describes two cases—that of a man, aged 57, who received a blow under the clavicle with a block of wood, and of another, aged 44, with a knife wound in the same region—which appear to have fulfilled these conditions: the evidence submitted indicates that in each patient the injury was the direct cause of the phthisis, which followed. The paper does not deal with the possibility of aggravation by trauma of already existing disease—obviously a problem much more difficult of solution. But one important practical point emerges—the need, for record purposes, of a clinical and x-ray examination of the lungs (not merely of the ribs) immediately after an injury to the chest in all individuals in relation to whom the question of compensation may subsequently arise.

CLINICAL RESEARCH AT GUY'S HOSPITAL

The Governors of Guy's Hospital and the Governors of Guy's Hospital Medical School have accepted an invitation from the Medical Research Council to co-operate in the establishment of a new "unit" for scientific research work in clinical medicine. It has been agreed that the Council will provide the salary of a whole-time director and of his assistants, with the cost of all apparatus and research material used by the unit. For its part, the hospital will provide suitable laboratory accommodation free of charge, and will place and maintain beds at the disposal of the director: the latter is to be *ex officio* a member of the visiting staff, with a seat on the Medical Committee and the committees of the medical school. These arrangements are to be effective for a period of five years in the first instance. Dr. Ronald T. Grant, F.R.S., hitherto working in the service of the Council in the department of clinical research at University College Hospital, London, has been appointed director of the new unit. The invitation was issued to Guy's Hospital by the Medical Research Council in accordance with its general policy of improving the facilities available in this country for the scientific study of disease in the human subject, and, with this end in view, of increasing the number of

higher appointments for whole-time workers in this field. The financial resources the Council is able to apply to the purpose are those which were released when the senior post, formerly maintained by it at University College Hospital, and held by Sir Thomas Lewis, F.R.S., received permanent endowment through the generous action of the Rockefeller Foundation.

PROBLEMS OF DRUG ADDICTION

In his Norman Kerr Memorial Lecture last week on "Some International Aspects of the Problem of Drug Addiction,"¹ Sir Malcolm Delevingne began by drawing a distinction between the universal and the local forms of this evil. Practices such as opium smoking, the use of Indian hemp, coca-leaf chewing, and perhaps opium eating in India, are mainly confined to certain countries and races, and show no tendency to spread. These, though they have had significant international aspects in the past, are now matters of local rather than of general importance: the contrary is the case, because of their universality, with morphine, heroin, and cocaine addiction. From the international aspect, the newer addiction drugs (prominent examples of which are diacodid, eukodol, and dilaudid) may also be included in this category. Drug addiction, the lecturer insisted, is at bottom a matter of supply. The habit is facilitated and encouraged by drug traffickers, who are attracted by the enormous profits of this illicit trade. Hence the problem is not merely a national but an international one, because only by international co-operation can the machinations of the traffickers be defeated, and because all countries have the same problems to deal with in connexion with the causation, effects, and treatment of addiction. Sir Malcolm then proceeded to give an interesting sketch of the history of various efforts at international co-operation from 1921—when the League of Nations began the work entrusted to it, and the international obligations under the Hague Convention came into being—to the coming into full operation at the beginning of the present year of the Limitation Convention. As a result of these efforts the position to-day has improved greatly. There has been, during the past few years, a steady diminution in the amounts of morphine, heroin, and cocaine manufactured in the legitimate trade, while an efficient international machinery exists for the control over the export and import trade in these drugs. In the Permanent Central Board, in the Supervisory Body, and in the League's Advisory Committee a real international administration exists. Public opinion throughout the world has also been awakened as to the serious dangers of drug abuse, and interchange of information between various countries—especially as concerns the drug-traffic—has been extended and made more effective. There is, however, a darker side, which forbids complacency. The illicit traffic still flourishes. Many individuals and gangs have been put out of action, but *primo avulso non deficit alter*! The situation in Europe, though not everywhere satisfactory, is clearing, but a sinister development is on foot in the clandestine manufacture in the Far East. The recent production at low cost of morphine from poppy straw may call for

¹ The Fifteenth Norman Kerr Memorial Lecture of the Society for the Study of Inebriety, October 2nd, 1934. President, Sir Humphry Rolleston, Bart.

careful study by the League. In conclusion, Sir Malcolm Delevingne indicated a number of questions which urgently needed solving; these, he contended, could only be satisfactorily dealt with by international co-operation. As examples of such problems he cited opium smoking, the treatment and "after-care" of addicts, the possibility of replacing heroin and cocaine by other drugs, the widely different consumptions of the different drugs in countries where conditions appear similar, and questions relating to the habit- or non-habit-forming properties of the newer narcotic drugs which are from time to time placed on the market.

TWO MEDICAL CENTENARIES

The British Medical Association, now in its 103rd year, and going so strong that it can jump 11,000 miles to Melbourne next summer for the Annual Meeting, looks with a benevolent eye upon the centenary festivals of younger medical bodies. To-day we print a brief account of the impressive ceremonies on October 4th and 5th with which the University of Durham, College of Medicine, Newcastle-upon-Tyne, celebrated the hundredth anniversary of the founding of the Newcastle Medical School. A former Chairman of Council of our Association, Sir Robert Bolam, played a leading part in these ceremonies, and the Association was officially represented by the reigning Chairman of Council, Dr. Le Fleming. We publish also a historical note, by Dr. D. M. Brockbank, on the centenary of the Manchester Medical Society, and in this he refers to the exhibition which has been arranged as part of last week's commemorative proceedings to illustrate the history of medicine in Manchester. On that matter we would like to add one sentence, in praise of the valuable work of the author's son, Dr. William Brockbank, to whom is due much of the success of the exhibition now open at the Central Library, St. Peter's Square, Manchester.

A HEALTH EXHORTATION FROM SCOTLAND

Sir Godfrey Collins, M.P., Secretary of State for Scotland, spoke last week at Dumbarton, and devoted his remarks entirely to the importance of the local authorities of Scotland giving persistent attention to matters of health. He was probably speaking to the converted, but it was wise to indicate the need for consideration by those authorities of the evidence they wish to give before the recently appointed Departmental Committee on Scottish Health Services, and of preparation for action in the interests of public health when the report of that committee is published. Sir Godfrey Collins pointed out that in the sphere of health, as in that of economics, Scotland started out with certain initial advantages over some Continental countries, but that these countries were devoting very great attention just now to the health of youth and the cultivation of a healthy race, and so were rapidly overcoming the disadvantages of their initial lag. Our methods are not the same as theirs, and national characteristics are different; but neither the innate virtues of the Scottish race, nor the multiplicity of health services, nor the fact that there has been an immense improvement already in the health of the people, especially in the physique and well-being of the children, will suffice to maintain our advantage unless

all those responsible are constantly seeking to do even better. Sir Godfrey mentioned national mortality and tuberculosis as matters in which a further advance is particularly needed. All this is true, and probably the Scottish local authorities will gladly take the exhortation to heart. But Sir Godfrey cannot be allowed to claim Lord Lister as one of "the natural products of the Scottish race." He was born in Essex, came of Yorkshire stock, and received his medical education in London.

THE A B C OF BIBLIOGRAPHY

Though most journals have their own conventions in the matter of literary form and of references, and authors' preferences are suffered only within narrow limits, every writer on scientific topics ought to be familiar with the technique of bibliography. As formal instruction in this subject is rare, beginners must learn either from their mistakes or from occasional papers treating of this difficult art. A cordial welcome may therefore be extended to an important article entitled "The Principles of Bibliographical Citation" (*Bulletin of the Medical Library Association*, 1934, N.S. xxii, 183), from the pen of Dr. John F. Fulton, Sterling professor of physiology at Yale, who is well known to British readers as a distinguished historian and bibliographer. Described as "an informal discourse addressed to writers of scientific papers," it is full of sound advice and written in an engagingly light and humorous vein. Insisting that references should never be taken from a secondary source, the author quotes the laconic reply of President Routh of Magdalen College, Oxford, to a younger man asking for some precept which represented the experience of his long and scholarly career: "Always verify your references." Dr. Fulton has much that is wise to say on the question of footnotes, split dates in references, and pagination. His own preference is to draw attention to papers with useful and accurate bibliographies by putting in square brackets after the formal reference a short phrase like "exhaustive bibliography." "Once it has become a habit bibliography is never irksome." Yet its technique is sometimes far from simple if we remember that in the case of the thirty-one John Adamsses in the *General Catalogue of Printed Books* (British Museum, 1932, vol. 2), accuracy demands the inclusion of the dates of birth and death.

The Manchester Lloyd Roberts Lecture on "Medicine and the Further Evolution of Society" will be given by Professor F. A. E. Crew at the Royal Infirmary on Tuesday, November 6th, at 4.15 p.m.

The Prince of Wales will lay the foundation stone of the Birmingham Hospital Centre on Tuesday, October 23rd. The first instalment, for occupation three years hence, will provide 500 beds; when the whole scheme is completed there will be 740 beds in the main buildings, with 100 more in a separate wing for paying patients.

The veteran Italian surgeon Senator Francesco Durante, emeritus professor of clinical surgery in the Royal University of Rome, died on October 3rd, at the age of 90. He was elected an honorary Fellow of the Royal College of Surgeons of England in July, 1900.

MOTOR CARS FOR 1935

THE OLYMPIA SHOW

[FROM OUR MOTORING CORRESPONDENT]

Once again the time has come round for the annual inspection of the new models of cars which manufacturers are producing for the 1935 season. The Show, which is the twenty-eighth organized by the Society of Motor Manufacturers and Traders, opened its doors at Olympia on Thursday, October 11th, and will continue until Saturday, October 20th. Although there are fifty-four firms showing cars—six more than a year ago—a feature of the industry is the concentration of car manufacture into fewer but larger concerns, evidence of this being afforded by the fact that at the 1928 Show there were no fewer than ninety-eight car exhibitors. The international character of the exhibition is, however, again fully maintained, for in addition to about thirty concerns displaying British cars, twenty-four are showing foreign productions—that is, eleven American and Canadian, five French, an equal number of Italian, two Belgian, and one German. As during last year's exhibition, the car exhibits are located on the ground floor of the old Main Hall, while the special coach-builders' section will be found in the adjoining National Hall.

LOWER CAR TAXES IN 1935

When in his 1934-5 Budget the Chancellor of the Exchequer announced a reduction in the annual car tax of from £1 to 15s. per horse-power, to become operative on January 1st next, it was thought that this would lead British car manufacturers to pay more attention to cars with engines of greater horse-power than hitherto. So far, however, there appears, generally speaking, to be no marked tendency in this direction, for all the large British manufacturers appear to have decided that the lower taxes are more likely to result in a large increase in the number of users of small- and medium-power cars of from 7 to 15-h.p., and of an extension of the "two cars per family" movement, and that consequently there is more business to be done in these markets than is likely to arise from existing motorists purchasing cars of greater horse-power than hitherto. On the other hand, doubtless anticipating that the reduced taxes will induce a certain section of the motoring public to use vehicles of higher horse-power, there is a slight increase in the number of American cars displayed. By agreement between the members of the society, no announcements of new models were made before about the middle of August, but since that date the motoring press has revealed the main lines of the programmes of the principal makers. A new feature has made itself evident this year, that of a few makers announcing only part of their new models, having kept in reserve one or more "surprises" for the exhibition, reference to which, if they materialize, will be made later.

Price being an important matter in these difficult days, it may be said at once that while prices are higher in a few cases they are on the whole unchanged. Even, however, where the latter term applies, in view of the numerous detail improvements and added conveniences, cars, if not actually cheaper, are certainly "better value for money" than ever. As usual, the Show has an appeal to motorists of all classes—from those to whom the £100 car is attractive, as well in respect of cost as intended use, to the luxurious road Pullman, the price of which may be anything from £2,000 to £3,000. The plan of offering buyers a choice of cars with two sizes of engine at the same price appears to be meeting with increased favour. Thus the Austin Twelve can have either a 13.9-h.p. or 15.9-h.p. engine; the Standard Sixteen and one of the Hillman models offer the choice of a 16-h.p. or 20-h.p. engine; the Morris Oxford can be either 16-h.p. or 20-h.p.; and one of the Rileys 12-h.p. or 15-h.p.

MECHANICAL TENDENCIES

Though there are still many motorists interested in the technical characteristics of cars, it is probably true

to say that to-day the majority of car users are content to leave these matters to the manufacturers, taking it for granted that no maker will turn out cars which, mechanically, are not thoroughly up to date in design and construction. In other words, the majority of users to-day are mainly concerned with the questions of first cost, running expenses, good appearance, reliability, and durability. Despite this, it is perhaps useful at Show time to undertake a brief survey of the progress that is being made in chassis as well as in bodywork design and construction.

While vehicles with eight-cylinder engines are to be found on many of the foreign vehicles, in this country cars with engines having either four or six cylinders continue to share the popular favour, the relative position of the two varieties being approximately unchanged. It is interesting to note, however, that two well-known makers, although continuing their 10-h.p. four-cylinder cars, have introduced similar chassis and bodywork, but with six-cylinder engines, to meet the demands of those users prepared to pay a little more for the extra flexibility of the "six." The modern engine, whether with four or six cylinders, has reached a point, as regards both reliability and efficiency, which leaves little room for further improvement. Some "cleaning up" in the arrangement of the various engine adjuncts has, however, been effected, but otherwise there are no striking departures to record. What may be regarded as a reversion to old practice is the adoption by the Lanchester Company of engines having combined cylinders and heads, instead of the now usual method of constructing these separately. The reason given for the change is that there is less liability to cylinder distortion and wear, and that, with modern methods, the question of decarbonizing piston heads and combustion chambers offers no increased difficulty.

THE BATTLE OF THE GEARS

In the majority of cars the more normal form of change-speed gear is still employed, but it will be found that gearboxes of what are known as the synchromesh variety, which greatly facilitates easy and silent changing, have been more generally adopted. In the Alvis, Hillman, and Humber cars synchromesh is now provided for all four speeds, while in the Austins and Standards three of the four speeds are of the latest type. Free-wheel devices to facilitate gear-changing, so arranged that they can be put out of action when desired, are also being more widely adopted, being now found on Humber, Rover, Triumph, and certain of the Standard cars.

The fluid flywheel transmission with preselective self-changing gear continues to be used on the B.S.A., Daimler, and Lanchester cars, the first-named feature in a modified form being now also found on some of the Singers. The self-changing gear has been used on the Armstrong-Siddeley cars since 1928, and is, of course, retained; it has also been adopted on the Crossleys, while it is being offered as an extra on the A.C., Sunbeam, and some of the Standard cars. An interesting innovation is seen in the Sunbeams and Talbots, this taking the form of a special clutch working in conjunction with the self-changing gear, the purpose being to reduce wear on the gear bands and provide smoother operation. An interesting new gearbox is also to be found on the 12-h.p. six-cylinder Wolseley "Hornet," this combining a normally used clutch and a self-changing gearbox giving three speeds in both forward and reverse directions. Those interested in the details of these new types of change-speed gears and other improved technical points of motor vehicles will be glad to know that a small portion of the exhibition is again being set apart for a display of working models by various manufacturers.

FRAME CONSTRUCTION AND SUSPENSION

Some new ideas in chassis frame construction are to be seen on the new Lanchester 18-h.p. and the Riley 1½-litre cars. The feature of the Lanchester is the addition of lattice steel welded to the inside of the frame members to provide greater torsional stiffness. In the Riley the frame members are of box section, while the usual

X-shaped cross members are replaced by a bracing of steel wire cable. Independent road wheel springing, which has become very popular in France and the United States (in which latter country it is known as "knee-action" springing), does not as yet appear to have caught on with British car designers, it being found only on one of the Alvis and Sunbeam models, and certain of the Singers.

A FRONT-WHEEL-DRIVE CAR

There have been rumours that, following a Continental lead, cars with front-wheel drive would be introduced by British makers. The only vehicle having this feature—and an interesting one it is, for it has, in addition, independent wheel springing and novel bodywork construction which obviates the use of the usual chassis—is the Citroën Twelve, which is of French design, but largely manufactured in this country. Other new models to which special attention may be drawn include, for those whose price limits are between £100 and £150, the remodelled Austin Seven and the new Morris Eight. For motorists looking for medium-priced cars with six-cylinder engines there are the Austin, B.S.A., Morris, Lanchester, and Vauxhall, while higher up the scale new vehicles are to be found in the 17-h.p. Armstrong-Siddley and the 18-h.p. Lanchester, both having six-cylinder engines and self-changing gears, the 12/55-h.p. British Salmons, the Riley 1½-litre car, and the Triumph "Gloria" models.

Minor new tendencies to which attention may be drawn include the provision of twin wipers on windscreens for the convenience of the passenger as well as the driver, arrangements for carrying luggage and spare wheel out of sight, and the general adoption of flush-fitting direction indicators, now made so that, when used, they automatically fall after a few seconds. Although tyre troubles are no longer the bugbear they were in the early motoring days, a growing practice much appreciated by the owner-driver is that of providing cars with built-in jacks, this feature being now found, among other vehicles, on some of the Armstrong-Siddley, Humber, Standard, Triumph, and Talbot cars. A useful feature which one would like to see more generally adopted is to be found on one of the Triumph models—namely, a steering wheel which is adjustable as to both height and angle to suit drivers of different stature; while yet another innovation worth copying is that of the rust-proofing of all exposed metal parts on the Rover chassis.

BODYWORK DESIGN

There were many who anticipated that, following the American, and to some extent the Continental, lead, British manufacturers would produce cars fitted with the "streamline" types of body. Actually, however, while bodywork in design and finish continues to show steady improvement, it will be found that British makers have, in the majority of cases, decided, "to make haste slowly," the only British car at the time of writing of ultra-streamline design being the Singer Eleven. From the scientific aspect it seems to be agreed that streamlining has no material effect on speed until from 40 to 60 m.p.h. is reached. At the same time it must be remembered that there are always those who prefer to purchase a car which embodies something out of the ordinary.

For general use the saloon type of car continues far and away the most popular, and while not of *outré* design, its lines are gradually becoming more flowing. There is also a marked tendency to give the fronts of cars a more "rakish" appearance by the use of sloping radiator guards. Attention may further be drawn to the improvements which are being made in the methods adopted for the ventilation of the interior of saloons and other covered cars, a point which will be appreciated by those who have to make long journeys. Although not of great interest to medical men, a section of the car exhibits which has a strong appeal to the younger generation of motorists of both sexes is that of sports models, examples of which are to be found on the M.G., Singer, Riley, and other stands. Despite their popularity in the United States, the fitting of wireless receiving sets on British cars has not made any great headway. Although there are several

sets on the market which can readily be installed, only two manufacturers—Hillman and Standard—include wireless-equipped cars in their programme.

AMONG THE ACCESSORIES

A feature of the accessory section of the Exhibition, which as usual is to be found mainly in the galleries, is the introduction of a number of devices specially intended to meet the new conditions set up by the latest motoring regulations—particularly in connexion with the order prohibiting the use of motor horns in built-up areas during the night. It has been quickly discovered that a good method for motorists to indicate their approach to a road crossing is momentarily to switch on the head-lights. To facilitate this one firm has introduced a new lamp operated by an "on-off" switch, which can be conveniently mounted on the steering column. When it is desired to travel after lighting-up time until 11.30 p.m. with the head-lights on, the normal switch lever is pushed over to, and left at, the "on" position. For night signalling purposes, however, the normal switch is placed at the "off" position, the head-lights being then momentarily switched on and off as desired by a push-button on the top of the switch, just in the same way as the electric horn is operated. Still another firm has introduced a switch which, by a simple movement can be made to operate the horn during the permitted hours and the head-lights during the night! This question of the non-use of the horn during the night is arousing considerable discussion in motoring circles, especially as the law of the land still requires all cars to be fitted with a horn or other means of giving audible warning.

A tour of the accessory section is always worth while, for it will reveal many new adjuncts to a car that add to the comfort of motoring during the cold, wintry months. Also to be seen are some new preparations for addition to the radiators of motor vehicles to prevent freezing up during the extremely cold nights of the winter months. The ignition on practically all modern cars is effected by coil and distributor, but it is noteworthy that one or two new designs of magneto have been introduced which can readily be substituted for the existing ignition equipment.

In next week's issue it is proposed to follow the usual plan of referring to some of the new car models, more particularly those which are likely to appeal to the majority of medical men from the points of view of cost and suitability. Finally, it may be mentioned that the Show is open daily (except Sunday) from 10 a.m. to 10 p.m. On Tuesday, October 16th, and Thursday, October 18th, the charge for admission is 5s. up to 5 p.m., and 2s. 6d. after that time, the entrance fee on all other days being 2s. 6d.

C. J. W.

At a meeting of the Empire Social Services Group of the Royal Empire Society, Lady Denham outlined the work of leprosy relief and care in British Guiana. There were some eight hundred lepers in hospital in British Guiana when she and Sir Edward Denham arrived; and many children—the home closed because of parents in hospital, or in whom disease had been either arrested or cured—were housed in the same building, and even taught by lepers. To combat this ethically and financially unsound method they decided to build a "home" for such children, and to segregate them. They had already collected £2,854 and had drained the colony dry, but £800 was still needed before the building could be put up on land provided by Government. Contributions should be sent to: Lady Denham's Home Fund (for Leprous Children), c/o Lloyds Bank, Ltd., 222, Strand, W.C.2. Sir Leonard Rogers, in supporting, emphasized that "children were the key to the whole problem of leprosy," because children were most susceptible to the disease, and, further, approximately 95 per cent. of the cases could be cured if tackled in the early stages. In India, under Lord Reading as Viceroy, they had raised £150,000 and made a survey of two million people. Leprosy could be eliminated within a very few decades if tackled boldly and systematically, as envisaged by Lady Denham's scheme.

Scotland

Glasgow Housing and Health Exhibition

Opening the twelfth housing and health exhibition, promoted by Glasgow Corporation, Lord Provost A. B. Swan said that Glasgow had been criticized in the past for her housing conditions. The city's Housing Committee, however, had been as energetic as any other in Great Britain, and had tried to make improvements every year. It had also been said that there was a sameness about Glasgow's houses which was almost sordid in character: it must be remembered that the Corporation had to work within limits of cost, and to provide as many simple houses as possible. Under the Housing Acts since 1923 Glasgow Corporation had itself built 36,000 houses, and with help 48,488 up to the end of August, 1934; this was not a bad record. The Government was now trying not only to eliminate slums, but also overcrowding, and in certain types of houses on view in the exhibition suggestions were made for the solution of this problem. Other exhibits illustrated the most hygienic ways and the best labour-saving devices for the home.

Four model houses constitute the principal part of the exhibition. The all-Scottish house, built by the Scottish National Development Council, is of modern design based on the Scottish traditional form of domestic architecture, and to meet present-day requirements in sunshine and ventilation the horizontal casement window has been introduced. Another model comprises two flats of a modern five-story Vienna tenement, the structure being fireproof and vermin-proof, with skeleton frame of steel standard units and concrete floors. A novel feature is the provision of a garbage chute made of asbestos cement, with openings on every floor, which conveys household refuse to a portable receptacle on the ground level. The Housing Department of Glasgow Corporation exhibits three- and four-apartment flats similar to those the department is now erecting for the rehousing of people from overcrowded conditions. These houses are built of brick and finished in roughcast, the cost for the four-apartment house being £210, with a rent of 12s. per week, and the cost of the two-apartment house £270, with a rental of 10s. 6d. per week.

Laboratory of the Royal College of Physicians

Sir Robert Philip, in his annual report as curator of the Laboratory of the Royal College of Physicians of Edinburgh, comments on the increasing co-operation between this institution and various public bodies, such as the Department of Health for Scotland, the Home Office, and the Health Section of the League of Nations. At the request of the Committee on Scottish Health Services the specific death rate for that country was investigated, but it was considered advisable to extend the inquiry to include those of England and Wales and Sweden. Certain remarkable and unsuspected regularities emerged, leading to the following conclusions. (1) In England and Wales and in Scotland the improvement attained at any particular time in the death rates of the various age groups depends primarily upon the date of birth of the individuals concerned, and only indirectly upon the particular year under consideration. An exception was noted in the case of the infantile death rates, which showed definite lags in their dates of improvement. (2) These results were shown to be consistent with the hypothesis that the important factor from the point of view of the health of the individual during his whole life was his environment up to the age of about 15 years, and that improved conditions at later ages had little direct effect. Improved

conditions appear to have brought about beneficial results primarily through their action on the children. (3) It is suggested that improvement in infantile mortality is dependent in large measure on improvement in maternal health. This would explain why the infantile mortality rates lagged in their fall. (4) The figures for Sweden did not show the same simple regularities. It would appear that in that country a disturbing force began to operate about 1850, adversely affecting adolescents and young adults. The work is being continued, and the figures for Holland are being studied. Taken as a whole the fundamental conclusion is that the death rate is a product of two factors: one depends only on the age of the group considered, and is presumably essentially physiological in significance; the other depends only on the year of birth, and is taken to be characteristic of the environment during childhood. More intricate calculations indicate that there is likely to be in the future a very considerable increase of persons between the ages of 65 and 85. In association with the Home Office, the inquiry into the relative toxicities of the solvents toluene and benzene was continued and completed. It appeared that the former was the less toxic, a fact attributable mainly to its lower volatility. The study has now been extended to include an investigation of the effects of ventilation upon the incidence of benzene poisoning in factories, the blood picture (aplastic anaemia and agranulocytosis) being employed as an index. Antirabic treatment was investigated for the League of Nations. No definite evidence was obtained that any one of the eleven methods was definitely superior, nor that live vaccines were more efficient immunizing agents than dead vaccines under the conditions, such as dosage, in which they were employed in practice. Sociological factors were found to bring about such divergencies in different countries as to render impossible any definite comparative evaluation of the different therapeutic procedures.

Health of Glasgow

The annual report by Dr. A. S. M. Macgregor, medical officer of health for Glasgow, shows that last year both the death rate and the birth rate in Glasgow were the lowest on record. The death rate was 13.4 per 1,000, as against 14.7 in 1932; this comparatively low figure is attributed to the good weather conditions during the greater part of the year. The estimated population of the city was 1,103,357, and the natural increase—that is, the excess of births over deaths during the year—was 6,614. As a result of housing operations the population showed considerable thinning out in the central wards of the city, with increases in the outer wards and in the adjacent county areas. The birth rate, 19.36 per 1,000, was only one-half of the rate prevailing fifty years ago. The infant mortality rate was 96 per 1,000 births, as compared with 112 for the previous year, and was the second lowest recorded for the city. This decrease was attributable to a low incidence of measles, whooping-cough, and pneumonia associated with the favourable weather, contributory causes being improved sanitation, housing, nutrition, and education. The principal feature in regard to infectious diseases was the continued high incidence of scarlet fever, the total number of cases registered being 8,378; which, however, was lower than the 9,158 cases for the previous year. Of the patients suffering from scarlet fever, 22 per cent. were not removed from their homes owing to pressure on hospital accommodation. The position with regard to the provision of institutional treatment for tuberculosis remained unaltered. Efforts were being made towards securing appropriate treatment for those who required it most. Improved housing conditions were now enabling isolation at home to be carried out

Reports of Societies

"MEDICINE AND MORALS"

LORD HORDER'S ADDRESS

The annual general meeting of the Medical Society of London was held on October 8th, the routine business being followed immediately by the address from the chair of the incoming president, Lord HORDER OF ASHFORD. The title given to the address was "Medicine and Morals."

Lord Horder began with the admission that the title had a certain spurious piquancy. The word "morals" had become closely attached to certain aspects of social behaviour, but he employed the word in an older, and wider sense, meaning the sum of the criteria governing human conduct and thought at the time being—a kind of design for living, a pattern which it was considered well to follow, whether for the individual or for social groups. Morals in this sense must have begun very early in human history, and they had been constantly changing—in some eras slowly, in others swiftly. The pattern for the individual changed more quickly—and therefore sometimes more catastrophically—than for society in general, a circumstance which was fortunate for society. The individual could even afford to say, "I have no morals" (though by that admission he declared his morals, which were, in effect, that he was a law unto himself), but society could never be without morals, because in that event it would cease to exist. If morals were an art only, and not both an art and a science, no doubt the pattern of life would remain much the same for generations together, as, indeed, it did before science began. But science was born at last, though the travail was long, and with the birth of science medicine for the first time became a living thing.

THE PHYSICIAN AS THE NEW PRIEST

Medicine as an art, of course, was ancient. Yet if the litter of superstition and dogma which encumbered it even up to Harvey's time were swept away there was really very little left that could be called an art. Hippocrates laid down some excellent basic principles, but for two thousand years no edifice was built upon his foundation, for the simple reason that the bricks and mortar of science did not exist. Medicine, during all this time, enjoyed the companionship only of philosophy—a barren alliance so far as the patient was concerned, for he could get his mental comfort from the priest or from humanistic teachers, whereas for his body the physician had very little to offer him.

At first slowly, in face of opposition, and then more rapidly, as the new criteria became irresistible, science changed the pattern of life. It also activated medicine, which made life longer and better worth living. Men began to take control of life themselves, until to-day the danger was, not that they should be cramped by authority, but that they should be fatigued or even destroyed by their own freedom. Realizing that the causes of their unhappiness, as of their physical ills, lay in the biological sphere, they sought the physician rather than the priest. Bewildered by the prospect which their liberty opened out, and all unaccustomed to deal with the raw material of their natures as now revealed to them, they went to the doctor for guidance. To them he was the realist, the link between the fine abstraction which still beckoned and the particular application for which they still hoped. "He that sinneth before his Maker, let him fall into the hands of the physician." Why? Because to the physician the individual was not a metaphysical constant, but a physical variable, and this outlook enabled him to lift up many a weary head and comfort many a sorrowing heart. The patient might well go too far along the road of scientific economy, and place his trouble in a lower category than that to which it rightly belonged. It might be the loss of his aspirations and ideals from which he was suffering, not a mere failure to adjust his physiological or psychological balance, and thus the doctor must act as priest as well as physician.

It was an advantage, at any rate, that in these days the cards were on the table. Thirty years ago Maudsley complained of the hypocrisy which led people to condemn the plain speaking of their ancestors and practise a decent concealment of their sensualities. Were Maudsley living to-day he might be surprised at the frankness with which patients spoke on matters on which the patients of a former day were reticent—a frankness not always free from a suspicion of relish. Clifford Allbutt once said that there was as much harm done by talking about things as by suppressing things, and that to familiarize evil was to tolerate it, and Lord Horder considered the sentiment appropriate to much that happened in the consulting room, and that there was something psychopathic about the glib way in which some patients described their sex life.

THE PROBLEM OF BIRTH CONTROL

Entering the arena of social morals, where, he said, on some issues it behoved medicine to take a guiding hand, while with regard to others it was more appropriate that society should lead, medicine answering pertinent questions, and being prepared to give practical help, he spoke first on the subject of birth control. Here, in spite of the fact that lay interest and inquiry were both awake and pressing on this subject, medical opinion was strangely discordant and ill formed. The majority of medical men and women still began practice with no instruction in contraceptive methods—a startling anachronism when it was remembered that memorandums had been issued to public authorities by the Ministry of Health encouraging the formation of clinics and the giving of medical help to women when contraception was desirable for saving life or preserving health. In private practice patients not seldom complained that their doctors failed to give them the practical help they had a right to expect. This failure to help was not due to the doctor holding views that ran counter to the principle at stake, but to ignorance of methods and technique applicable to particular cases. The defect should be remedied without delay. It would be lamentable if the moral fabric of society became definitely formed in this matter, while medicine failed to give the guidance which it alone could give. Was it that medicine itself offered a resistance because it was still influenced by a certain body of religious doctrine? Or was it thought that such help might encourage extramarital sex relations? That pregnancy should be regarded as the chief or only deterrent to illicit intercourse was a terrible indictment against individual idealism on the one hand, and the aims of social reform on the other. Morality based upon fear of penalties was entirely a static affair, though doubtless of service at the beginning of human progress. Surely society was ready for a harder lesson than that. Increased control in the sphere of sex, like increased control elsewhere, was an inevitable result of the ceaseless probings of science, and that such increased control might be used for ill as well as good was a general, and not a particular, result of social development. Perhaps the profession was still awaiting the mandate of a completely convinced society. It ought not so to wait. It ought to be ready, with the fullest assistance so far provided by medical science, to answer in practical and positive fashion the questions put by those who, having emerged themselves from the thralldom of sex dominance, honestly and sincerely sought such expert help.

Inability to deal constructively with birth control brought in its wake the nemesis of the social evil of abortion. Here was another matter which cried out for full examination and advice. The anomaly which allowed the well-to-do to get rid of the unwanted child before it was born, without danger to life or reputation, yet denied such relief to the poor, was a stigma to which society was at last awakening.

EUTHANASIA

The subject of euthanasia was an old and recurring one, and more was likely to be heard of it in the immediate future. To many who discussed it the problem seemed simple, but to those who were brought into daily contact with the facts there was no problem more difficult.

Whose life should be terminated? And by whose decision? At what level of congenital defect, physical or mental, should the line be drawn? What diseases were to be regarded as incurable, and at what stages in them should the cup of Lethe be drunk? Was the patient's judgement to be relied upon, warped as it often was, whether by the malady or the treatment? How could it be known that his mood was permanent? How was the calculated decision of a man's intelligence to be distinguished from the cry of strained emotion for relief? It had to be recognized that the request to end suffering by ending life was not always the cry of a spirit stricken past endurance, but rather the dramatic demand of someone whose patience, never too good, was now exhausted. Finally, when the demand to end life was made on behalf of someone else, it was often not the patient, but the patient's friends who could not stand the strain. "Doctor, you must end this agony!" said a woman to him recently, and his reply, "Do you mean yours or your husband's?" brought home to her, rather sharply, the real position. The inalienable right of another person to live, if he so desired, had been entirely forgotten. "I am sure he does not want to live" might well mean, "I do not think I can possibly see him suffering any longer."

These were some of the considerations which must be advanced when they as medical men were approached by laymen who believed that the institution of euthanasia of the direct kind would be of benefit to humanity. In his judgement, this was the one subject upon which, though their experience should be available to guide the decisions of others, they ought not to express strong views. Their whole training and outlook were directed towards the prolongation of life and the relief of pain, and while they had to distinguish prolongation of life from prolongation of the act of dying, he thought the larger decision should be left to the developing good sense and judgement of the community, whose servants in such a matter they really were.

DUTY OF MEDICINE TO SOCIETY

After the briefest reference to other matters, including voluntary sterilization—the Brock report deserved the most careful study—the drink problem, food problems, industrial fatigue, and the campaign against unnecessary noise, Lord Horder went on to deprecate any aloofness of medicine from questions that affected social groups or society in general, and ultimately determined the general welfare and happiness. Morals, in the sense in which he had used the term, were constantly changing, and medicine could guide or even to some extent control those elements in the mosaic which concerned its own art and science, or it could remain detached and let society take care of itself. If, as he thought desirable, and indeed incumbent, the former alternative were adopted, then it was essential that the examination of these elements and guidance concerning them should be undertaken by representative bodies in medicine, rather than merely by individuals. Pooled opinion was much more useful than the expression of personal views. Moreover, the limitations imposed upon the individual by the traditions of medicine were severe, and rightly so. In the first place, no amount of publicity of itself conferred prestige upon the doctor, though it was perhaps wise to admit in these days that prestige could not be attained without some degree of publicity. Again, no medical man, however expert in his own sphere, could take upon himself the responsibility of standing for the general body of medical opinion; indeed, in respect of the things he had been considering, the very fact that a man was an expert might be a danger.

It was to his colleagues assembled in council that the individual, stirred to a protest or eager for a reform, should address himself in the first instance. Convinced himself, he was not likely to fail in convincing them if his case was a good one. He could thus secure the powerful aid of their corporate influence. So it should be with matters submitted by various sections of the public or by Government—for even Government sometimes, and quite sincerely, sought the way of salvation:

it was to representative and authoritative bodies inside medicine, and not to individuals, that these inquiries should be directed. But where were the representative and authoritative bodies? The Society he was addressing, like its vigorous offset, the Royal Society of Medicine, existed for academic discussions. The British Medical Association was a body most admirably suited to guard the status and amenities of its vast membership, but this function being apparent and accepted, it was reasonable that it should be suspect when matters of public interest were being ventilated. It was true that in the last analysis the public interest and the interest of the doctors were identical, but this last analysis must not be assumed as being made by those who were vitally concerned in the direction of social morals. Some would say that this was the sort of thing that might be adequately undertaken by certain health societies which had on their committees both doctors and laymen. But in the discussion of medical topics he distrusted such mixed bodies thoroughly. How could people confer with any expectation of a helpful issue if they did not speak the same language? There remained the Colleges, strong and representative bodies. Together the Colleges might voice a solidarity of opinion on any question arising within their walls or submitted to them from outside, and no impeachment on the ground of bias or parochialism could possibly be advanced. Against the Royal College of Physicians there was formerly lodged the reproach that it isolated itself from important outside affairs which cried aloud for the guidance of medicine, and the stigma was not unmerited. The present President of the College (Lord Dawson of Penn) was to be congratulated upon the efforts he had made to remove that reproach. His invitation to discuss certain matters of general interest to the public in comitia showed that he was alive to one of the chief functions of the College, and the setting up of a committee whose sole reference was to keep the College in touch with outside affairs which had medical bearings was a most laudable action. The recent decision of the Presidents of the two older Colleges to discuss disciplinary matters and penal cases in joint council was an advance in another and equally important direction. Whilst individually the Colleges were strong, they would more than treble their strength and their public influence if there were a closer liaison between them. Indeed, apart from acting in concert concerning examinations, the liaison scarcely existed. At present there were risks of divergence of opinion, and there was duplication of discussion. A closer union was much to be desired. Lord Horder closed by suggesting the idea of an Academy of Medicine in this country, of which the Colleges would be the main pillars. He again quoted Clifford Allbutt: "If a social discipline and fruition are to be renewed and enlarged, it must be upon a new synthesis as laborious and ardent as the former, and more true. . . . Swift and strength come of union of wills and singleness of heart rather than of wisdom."

At the close of the address a vote of thanks to Lord Horder was carried on the proposition of Mr. WARREN LOW, seconded by Dr. WALTER CARR. Earlier in the evening the Society had taken leave of its retiring president, Sir John Thomson-Walker, to whom also a vote of thanks was passed. Some handsome new seating accommodation in the meeting room is Sir John Thomson-Walker's gift to the Society to mark his year of presidency.

F. Deak (*Thèse de Paris*, 1934, No. 535) states that in contrast with other districts in Rumania, in the delta of the Danube malaria is insignificant both in number and in gravity. The explanation for its infrequency is to be found partly in the preference shown by the anophèles for the cattle and partly in a relative immunity, combined with an excellent general condition of the population. The eastern part is almost entirely free from the disease, the average endemic incidence sometimes not exceeding 0.4 per cent. among 2,000 children up to the age of 15, as compared with 14 per cent. in the Tulcea area, at the apex of the delta.

CORRESPONDENCE

Publicity

SIR,—From time to time you publish in your correspondence columns, and elsewhere, indignant protests from practitioners whose articles have been quoted by the lay press, and who wish to repudiate any responsibility for their appearance. I wonder if there is any advantage in such disclaimers. Those who are familiar with the professional status of their colleagues require no such assurance. Others acquainted with the methods of journalism are perfectly well aware that no precautions can prevent these occurrences. And a tiny minority who might be willing to accuse your correspondents of seeking publicity or notoriety may even interpret the disclaimer as corroboration of the original intention! In any case nothing can prevent the lay journals from quoting from your columns, extracting the relatively dramatic, and unhappily, on occasion, misquoting and misrepresenting. For the author of the original article to protest is obviously useless. Is it too much to say that not only is it useless, but it is quite unnecessary?

There is another aspect of this subject to which reference may not be inappropriate. The interests of medical men are not by any means restricted to their professional life, and there are certain outside activities upon which they are, rightly or wrongly, regarded as authorities, and upon which their opinion is considered to be correspondingly desirable. From their familiar association with the use of the telephone doctors are particularly fair game for attack through this convenient but highly dangerous medium. And once your ear is at the instrument and your arrival admitted, and you are inveigled into saying something, no matter what, the mischief is done. If, good-naturedly, you believe you may be doing a service to the public—and that really is the motive on most occasions—publicity is inevitable. The most fervent request to withhold your name is unlikely to be respected, since any news value attaching to the opinion of one who is being represented to be an authority depends entirely upon his name being mentioned. Alternatively, a curt refusal may rebound upon you to your subsequent discomfiture, and those who have once suffered in this way have learnt that it pays to be courteous.

At midnight a few weeks ago the news editor of one of the daily papers felt unable to rest until he had telephoned to take my opinion upon a "story"—just to hand from South Africa: an indignant protest against holding Olympic Games for women because there was abundant evidence that some men had actually competed. It says something for my forbearance that my only observation, even at this hour, was that I knew absolutely nothing about it. Yet this became ingeniously interpreted as an authoritative denial of the rumour. A week later—again at the (apparently critical) hour of midnight—I was approached by another journal in reference to an inquest that had been held that afternoon, at which the coroner had expressed his opinion that the suicide of some unhappy young man was due to his "having lived too strenuously." "Did I think the coroner was right?" and "What did I suppose the coroner meant?"

It may be that some of us might succeed in fencing ourselves round by a complete secretarial inaccessibility (more appropriate, perhaps, to a Pope than to a medical man), and thus receive adequate protection from telephonic assault. But by the time we had acquired an eminence commensurate with such a state we should be "in the news" anyway.—I am, etc.,

London, W., Oct. 8th.

ADOLPHE ABRAHAMS.

Is High Blood Pressure a Risk?

SIR,—In your issue of August 25th "M.S., F.R.C.S." appears to call for a review of the vast amount of work written on high blood pressure. The cases to which he makes reference appear to cast a cynical doubt on the now recognized fact that, as a rule, high blood pressure certainly carries with it a risk which, to our shame it must be admitted, has been seriously overlooked since Clifford Allbutt drew attention to this disorder. The condition, according to Fahr, claims 10,000,000 afflicted in America, and 200,000 deaths a year—an incidence as common as cancer and tuberculosis together; according to Parkinson it is a "very common disease, which is responsible for so much suffering and mortality in late middle life and early old age." I can endorse Parkinson's observations even more strongly from my experience in this country, where the ravages of rheumatic fever are not so prevalent as in the West, and therefore show up hypertensive failures more readily.

One is tempted to ask: Has "M.S., F.R.C.S." met no other cases of high blood pressure? If he has not he is an extremely lucky medical man. If he has met many cases with such high diastolic pressures, surely there must have been many with serious complications. I have had several friends and many patients with diastolic pressures of 170; very few indeed are alive. I have seen four cases which had systolic pressures of over 300. These could not be recorded, as the manometer only read up to this figure. The diastolic pressures in them were over 160. All these patients were over 60 years of age, and until a short time prior to a fatal issue had nothing more than the mildest general symptoms. One patient of mine, 68 years old, apparently in good health, had a systolic pressure of 210 and a diastolic of 95; another, a lady, a systolic of 300 and a diastolic of 90. These striking exceptions, and many more like them, have not made me cease to believe that high blood pressure, particularly when it occurs under 50 years of age and once any symptoms are manifested, is a danger to life of which some kind of notice should be taken.

An account of the numerous strokes which appear in these cases is given in my Sir Charles Hastings prize essay on "The Stroke in High Blood Pressure," published in the *British Medical Journal* of January 30th, 1932.—I am, etc.,

General Hospital, Colombo,
Ceylon, Sept. 22nd.

H. O. GUNewardene.

Preliminary Ligature in Toxic Goitre

SIR,—The correspondence concerning preliminary ligature in toxic goitre has probably continued long enough for adequate ventilation of the different opinions that are held. An excellent summary of the position was supplied in your issue of September 29th by Sir W. I. de Courcy Wheeler. I cannot, however, remain silent in view of the repetition by Mr. G. Bankoff in your last issue of the astonishing and dangerous fallacy that the degree of the reaction depends, not on the amount of thyroid tissue that is removed, but on how much is left behind. If this were true, the only logical inference would be that the lowest mortality rate would be obtained by performing a total thyroidectomy in all the worst cases. This is contrary to clinical experience, and the principle would be most dangerous if generally applied. I fully agree with Mr. Hawe and Mr. Bankoff that "for the good success of the operation it is imperative to remove at least three-quarters of the gland," and in fact I frequently remove more than this. In the great majority of patients it can be done in one operation, but in a

small minority it must be done in stages. The patient's reaction depends, in my opinion, on the amount of disturbance to which she is subjected, and that is why operation in stages, including preliminary ligature, is occasionally necessary. This procedure is reserved for those patients who are most seriously ill, so that it is no matter of surprise if sometimes one of them dies as the result even of the most cautious surgery. In some clinics patients who are as ill as this are not subjected to surgery at all, and perhaps some in consequence die who might have been saved. Their deaths then appear, however, in medical, not surgical, statistics. Unless we are shown both sides of the picture our data are really incomplete.—I am, etc.,

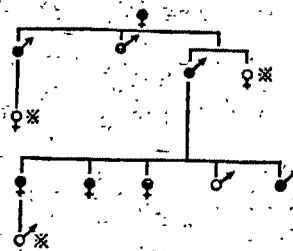
London, Oct. 8th.

GEOFFREY KEYNES.

** This correspondence is now closed.—Ed., B.M.J.

Female "Bleeders"

SIR,—The case of a female bleeder recorded by Drs. M. A. Foulis and J. W. Crawford in the *Journal* of September 29th (p. 594) prompts me to send you the genealogical tree of a very similar family, most of whom live in this town. I cannot trace it back any further than the grandmother of the present family, who is assumed by her descendants to have been a bleeder because she died from uterine haemorrhage the day after giving birth to the twins shown. I have put a star against three



members of the tree, because I have been unable to find out whether they are bleeders or not. One of these died as a child of 12, one lives far away, and the third, a sturdy boy of 14 months, has so far been preserved from cuts and scratches. My partner, Dr. Mary MacLaren, attended the eldest daughter at her confinement last year. She had previously dosed her liberally with calcium gluconate and laevulinate, and informs me that at the confinement there was a rather profuse loss, followed by a more severe haemorrhage three days later. Otherwise the women did well. One of her sisters had a very troublesome appendix two years ago. This we removed without untoward incident after a preliminary intensive treatment with calcium gluconate and a dose of haemoplastin.

The bleeding in this family is of a severe character. All the members marked with black dots suffer from fairly frequent epistaxis, which may last for several days. A cut or a tooth socket seldom stops bleeding within twenty-four hours, and several times haemorrhage has kept on for a full week. I cannot give the clotting time for the blood, partly because I seldom treat the family, and partly because the only attempt I have made to time it failed. The blood seemed to be quite fluid after standing for an hour, and then I had to leave it. My own blood, which I had put up as a control, had clotted within three minutes. According to the mother's statement the bleeding in her four children started in infancy. She makes a curious statement about her eldest daughter to the effect that she bled from the mouth about the same time every month until she was 2. While this is difficult to believe, she says that the periodicity was so marked that she could not mistake it.

The family tree I give is unfortunately very small, but, such as it is, it shows conclusively that in this family at least bleeding is not a sex-linked character, and suggests that it is almost a Mendelian dominant.—I am, etc.,

Winsford, Cheshire, Oct. 6th.

W. N. LEAK.

Evipan on a Full Stomach

SIR,—With reference to the point raised by Dr. Langton Hewer, commenting on our recent paper on evipan anaesthesia, we entirely agree with him that the administration of evipan or any general anaesthetic when the stomach is overloaded may be a dangerous procedure.

We do not consider that any suggestion to the contrary was either made or implied in our article. Our statement was: "Evipan may be given without danger on a partially full stomach." In such circumstances, in a healthy subject the danger of syncope is remote, and, owing to the nature of the anaesthesia, there is practically no risk of stomach contents entering the respiratory passages. In the example quoted the patient had taken a light tea only, and had the wording of the text been "the patient recently had a light meal" instead of "the patient recently had a meal," perhaps our meaning would have been more evident.—We are, etc.,

Royal Westminster Ophthalmic
Hospital, W.C.2, Oct. 5th.

T. KEITH LYLE.

F. G. FENTON.

Control of Haemorrhage in Prostatectomy

SIR,—One serious complication of endoscopic resection of the prostate is haemorrhage and clot retention in the bladder. The haemorrhage cannot always be arrested by diathermy and fulguration at the time of the operation, nor can it always be controlled by the pressure of a retained large catheter. Irrigation with silver nitrate merely converts a soft clot in the bladder into a hard one, which often necessitates an open operation for its removal. To obviate the disadvantage of haemorrhage and clots I have recently in all cases tied in two catheters, one large and one small. Continuous irrigation is given, the inlet being the smaller catheter. The fluid used is 5 per cent. sodium citrate. This prevents clotting, and the catheters are seldom required after forty-eight hours. Instead of two separate catheters a double-channel catheter may be used. These are made by the Genito-Urinary Manufacturing Company. I strongly advise continuous irrigation as the initial after-treatment following endoscopic resection of the prostate.—I am, etc.,

London, W.1, Oct. 2nd.

F. MCG. LOUGHNANE.

Traumatic Rupture of the Lungs

SIR,—Dr. W. E. Cooke's paper (*Journal*, October 6th, p. 629) on traumatic rupture of the lungs without signs of trauma of the chest wall is of great interest to me, as it recalls a case which occurred in my own practice some years ago, and which has been puzzling me ever since. In the Southern Argentine, where I practised for a few years before the war, I was called one morning to see a policeman who had just been brought down from the country, having been in a rough-and-tumble the evening before with some prisoners he was escorting to the coast. When I saw him he was in a very serious condition, and I found on examination that there was an incised wound on the right chest in the mid-axillary line. There was complete dullness from the right clavicle downwards, and all the signs of a serious right haemothorax. I went back to my house to fetch some instruments, meaning to do a preliminary aspiration, but when I returned soon afterwards the man was dead. I did a necropsy by order of the local judge, and was surprised to find that, first, the wound had never penetrated the chest wall; secondly, that the ribs and the parietal pleura were perfectly intact; and, thirdly, that the whole of the right pleural cavity was filled with blood and broken lung debris. Nothing of the right lung remained except

a torn, jagged root; all the lung substance proper had vanished. The left lung, heart, and abdominal viscerae were intact.—I am, etc.,

Kirk Michael, Isle of Man, Oct. 9th.

E. G. FENTON.

Tuberculin

SIR,—A letter published in your issue of September 29th (p. 612), by "M.B., D.P.H.," is a most valuable and interesting human document. Might I suggest that this doctor reads an article written by Dr. J. R. Gillespie, tuberculosis officer for County Down, and published in the *Ulster Medical Society's Journal* of 1917, on a rational method of using tuberculin. Your correspondent will there see the reasons for the reactions which he obtained.

Experiments show that in about 95 per cent. of animals tested with tuberculin a positive reaction indicates the presence of living germs in the animal's body. Though x-ray examination may have failed to disclose any evidence of pulmonary tuberculosis in your correspondent's case, yet the reaction he obtained proves conclusively that he is harbouring living tubercle bacilli.—I am, etc.,

Nordrach-upon-Mendip, Oct. 2nd.

GORDON TIPPETT.

Minor Medical Problems

SIR,—I am venturing to write to you about two small but interesting matters.

First, I wish to draw attention to the bad results I have had recently after the administration of potassium iodide. In one case, that of a male aged about 35, perhaps of rather a "neurotic" disposition, only 3 grains of potassium iodide were given, but within twelve hours his face had become swollen and his eyelids were oedematous. A friend of mine, a member of the medical profession, noticed that after taking 5 grains three times a day his neck and cervical glands were so swollen that he could not put on his collar. My former house-surgeon at Guy's Hospital reports two severe cases of nasal discharge and septic eruptions following upon the administration of small doses of potassium iodide.

Secondly, I wish to draw your readers' attention to the rather anomalous nature of the so-called "boil" during the last twelve months. In all the cases that I have seen or heard of recently apparently no definite slough occurred. In two cases a purulent discharge lasted a very long time—namely, eight weeks or so—without any core being formed or extruded. One of these cases terminated fatally from meningitis.

Doubtless the action of drugs and the reaction to disease may vary from time to time, but potassium iodide is a drug which is frequently given, and the formation of a boil is a common condition: it would be interesting and instructive to know of other medical men's experiences.—I am, etc.,

RALPH THOMPSON, Ch.M., F.R.C.S.

London, W., Oct. 8th.

"Port Sanitation and Common Sense"

SIR,—The letter of "M.D." (*Journal*, October 6th, p. 658) calls for a reply, for which I would crave your space and tolerance.

The main purpose of my article was to draw attention to the anachronistic nature of present-day port sanitation procedures, especially those of the Latin countries. I did not for a moment claim that any ship surgeon should be regarded as endowed with medical omniscience, only that he should not be treated, as happens in many foreign ports, as an ignoramus in respect of medical knowledge.

The cases which "M.D." mentions are admittedly difficult, and I for one would be only too pleased to have assistance in their diagnosis; but they are exceptional cases, quite different from the everyday minor illnesses which occur among human beings everywhere, ashore or afloat.

His assertion that infectious disease might break out on board during the twelve hours' transit of the Suez Canal is so very improbable as to verge on the fantastic. The health authorities of the Panama Canal zone are experts at their job, yet they require a declaration only at one end of that canal—the Atlantic for west-bound ships, the Pacific for east-bound. The case which he mentions of concealment of small-pox must in itself be anachronistic. I feel perfectly certain that no British ship surgeon (still in his senses) would nowadays attempt to conceal a case of small-pox, or even one that remotely suggested it. He would be only too glad to have it removed from the ship.

There certainly cannot be a multitude of forms, but there can be a variation in the attitude of the port doctor. He need not necessarily treat every ship surgeon as a medical ignoramus, and probably a liar in addition.—I am, etc.,

October 6th.

SHIP SURGEON.

** This correspondence is now closed.—ED., B.M.J.

The League and Peace

SIR,—Your annotation—"Cheese-paring at Geneva" (September 29th, p. 602)—cannot be read without arousing the deepest indignation at the indifference of the official mind to the common welfare. This indignation calls for expression; but how? Personal protest is useless, and political protest, because of the complexity of election programmes, is ineffective. There is, however, one course which should command the support of all. A way should be found for those who have the maintenance of peace at heart to unite to send an annual voluntary contribution directly to the League of Nations at Geneva. This would be additional to the sum of one penny and one farthing per head found with such difficulty by the British Government. Someone must take the initiative. Will the British Medical Association, as a professional body whose concern is our individual good health, therefore invite the representatives of other professional and also religious and social bodies to confer on the best means of making this proposal effective? In this you would have the earnest thanks of millions to whom one penny and one farthing is a tragically laughable price to pay annually for protection against war and for the encouragement of the arts of peace.—I am, etc.,

London, S.E.24, Oct. 2nd.

W. J. WISDOM.

The Services

NO. 14 STATIONARY HOSPITAL DINNER

The fifteenth annual dinner of the medical officers of No. 14 Stationary Hospital will be held on Friday, December 7th, at the Trocadero Restaurant, Piccadilly, at 7.15 for 7.45 p.m. Colonel C. R. Evans, D.S.O., will be in the chair. Price of dinner is 12s. 6d., exclusive of wines; evening dress or dinner jacket. The honorary secretaries are Colonel H. M. Perry and Dr. H. L. Tidy, 39, Devonshire Place, W.1.

DEATHS IN THE SERVICES

Surgeon Commander Archibald Denize Spalding, R.N. (ret.), died in London on September 10th. He was educated at the London Hospital, taking the M.R.C.S., L.R.C.P. Lond. in 1901, after which he entered the Navy, becoming surgeon commander on February 2nd, 1916. He served throughout the war of 1914-18.

Obituary

J. P. A. GABB, M.D.

Consulting Medical Officer, Royal Surrey County Hospital,
Guildford

Dr. J. P. A. Gabb, who died on September 18th, was the son of Dr. John Gabb of Bewdley, Worcestershire, and was educated privately at Clifton and later at University College, London, where he graduated, taking the M.B.Lond., with honours, in 1879 and the M.D., with honours, in 1882—the year in which he went to Guildford. He had also obtained the M.R.C.S.Eng. in 1879, and was awarded the gold medal for surgery and the silver medal for medicine. Dr. Gabb held the following appointments: honorary consulting medical officer to the Royal Surrey County Hospital; honorary medical referee to the Royal National Hospital for Consumption at Ventnor. He was president of the Surrey Medical Benevolent Society, and a Fellow of the Medical Society of London. He had been resident medical officer of St. Marylebone General Dispensary, house-surgeon at Kidderminster Infirmary, and house-surgeon and house-physician at University College Hospital. He was a member of the British Medical Association for fifty-two years.

H. B. B. writes: Dr. J. P. A. Gabb's death is an irreparable loss to his many friends; none of us now left in practice can remember a time when he was not there to be consulted in case of need—for he practised in Guildford for more than fifty years. He was a tower of strength to his junior colleagues—who consulted him freely—not only in purely medical matters, but in almost every concern in life that can affect medical men. His advice was always inspired by wisdom, often spiced with humour, and was given in such a friendly spirit that even when it was the reverse of that hoped for by aspiring youth it was comforting: hall-marked by reason. He was a shy man, very quiet and reserved, but his illuminating smile was celebrated. I have heard it said, rather enviously, that he owed his enormous practice to this smile, and I am open to believe that it contained healing properties, as an adjuvant to his vast experience and distinguished medical acumen and knowledge. His general practice was of the best kind, and included every class of society—and both rich and poor. All his patients were his friends, and they all loved him. There must be a very large number of people who will never regard any other doctor, however good, as "the doctor" in the same sense as they regarded Dr. Gabb. They could always rely upon him, and his mood was always the right mood. He was both generous and charitable. Dr. Gabb was a tall, handsome man, very strong, and in his prime, which lasted nearly to old age, he was untirable. He had little time for sport or recreation, but he loved his garden and his pigeons.

JOHN MACAULAY BOWIE, M.D.

F.R.C.S.Ed., M.R.C.P.Ed.

The death took place suddenly in Edinburgh on October 5th of Dr. J. M. Bowie, a well-known medical practitioner of the city. He was taken ill while driving his car, but was able to draw in to the side of the road; when he was carried into an adjoining office life was found to be extinct. Dr. Bowie, who was born in 1874, took a medical course at Edinburgh University, where he graduated M.B., Ch.B. in 1898, proceeding to the M.D. in 1901. In 1902 he joined the Royal College of Physicians of Edinburgh as a Member, and took the Fellowship of the Royal College of Surgeons, Edinburgh, in 1903. After a period as resident physician with the late Sir Byrom Bramwell in the Royal Infirmary, Edinburgh, he acted as house-physician

at Monsall Fever Hospital, Manchester, and as clinical assistant in the nose and throat department of the Royal Infirmary, Edinburgh. He later began practice in the Grange district of Edinburgh, where he enjoyed the confidence of his wide circle of patients to an unusual degree. In his student days Dr. Bowie took a keen interest in the Royal Medical Society of Edinburgh, of which he was honorary secretary, and he continued to devote himself to various professional organizations in later life. He was thus an active member of the British Medical Association; on several occasions he was a representative at the Annual Representative Meeting, and in 1930-2 was chairman of the Edinburgh Division of the Association. At the time of his death he was chairman of the Edinburgh Panel Committee, a member of the Scottish Committee of the British Medical Association and of the Edinburgh Insurance Committee, and chairman of the Clinical Club, a social organization for general practitioners in the city. He assisted in the organization of the Public Medical Service for Edinburgh which has just been started. During the war Dr. Bowie was medical officer to the 9th Royal Scots, and served with the rank of major in the R.A.M.C.(T.) in France, where he was severely wounded. For his services in France he received the Croix de Guerre. After his return he limited his practice to some extent, and removed to 10, Walker Street, Edinburgh.

Dr. Bowie is survived by a widow, two sons, and two daughters. Mrs. Bowie is well known for her activities in the nursing world, being connected with several nursing publications and an Associate of the Institute of Journalism. A memorial service held on October 8th at St. Cuthbert's Parish Church, Edinburgh, where Dr. Bowie was an elder, was attended by many representatives of the medical profession. The interment took place in the Dean Cemetery, Edinburgh.

D. L. FISHER, D.S.O., M.B., C.M.

Lieutenant-Colonel R.A.M.C.(T.)

Dr. David Leonard Fisher, who died on October 3rd at Darlington, was born on May 23rd, 1870, in Belfast, and studied medicine at Edinburgh University. He graduated M.B., C.M. in 1897, and after holding the post of demonstrator in anatomy for a time, was appointed house-surgeon to the Mildmay Hospital, Bethnal Green. He then practised in Stockton, and met his wife, a daughter of the late Mr. George Mellor, a member of the Stockton Council, and, accompanied by her, he went to Manchuria to take charge of a mission hospital until the Boxer rising. Returning home, he established himself in practice in the rapidly growing north end of Darlington, and afterwards in partnership with Dr. C. J. Kirk, taking part in all progressive work—first aid, St. John Ambulance, Territorial training, and later, service to the municipality of Darlington as a councillor in 1909, chairman of the Library Committee, and alderman in 1926, when he was elected chairman of the Health Committee. In 1921 he was appointed a justice of the peace.

Dr. Fisher had a most distinguished military career. Amidst a very busy practice he found scope for his illimitable energies in the Territorial Service in 1908, and at the outbreak of war was a captain of the 2nd Northumbrian Field Ambulance. Mobilized in August, 1914, he went to France in December with the 30th Division, having been in the meantime promoted major whilst stationed in camp at Gafeshead. At the end of 1915 he was transferred to Salonika, where his brilliant self-devoting services and organization of field hospitals in the Struma and Vardar won him his lieutenant-colonelcy in 1916. He continued to serve midst all the trials of malaria, dysentery, and cholera in the East until his return to

civil life in 1919 with the rank of lieutenant-colonel. His war honours included mention in dispatches three times, the award of the D.S.O., and the decoration of an Officer of the Legion of Honour from the hands of the President of the French Republic.

In 1933, following the distressing event of the loss of two mayors in four months, Dr. Fisher was unanimously elected mayor of Darlington, and though still feeling the strain of those past years, so typical of his life, he manfully accepted the responsibility, and guided the council through a most difficult period in its history. He also held the appointment of police surgeon and medical referee to the War Pensions Committee. Always progressive, he was largely instrumental in forcing the pace in Darlington in the fight against tuberculosis in 1912, in the conversion scheme from privy middens to water carriage, in founding a museum, in replacement of noisy clanking tramways with trackless rubber-tyred buses, in modernizing water supplies, and finally in the co-ordination of medical services under the Local Government Act, 1929, when the whole of the council's activities were centralized under practically one roof, convenient to the new Memorial Hospital. Dr. Fisher joined the British Medical Association in 1903, and was chairman of the Darlington Division in 1925-6. He never made it his aim to amass money, but rather set himself to help his fellow man in whatever way he best could use his talents. His criticisms of colleagues were of the kindest nature. Always patient, always eager to believe the best, a true sportsman, he endeared himself to his friends and soon won over his opponents—if he ever had any.

A public memorial service was held at St. Cuthbert's Parish Church on October 6th, when a large congregation, consisting of the mayor, corporation, chief officials, and representatives of many organizations, paid their last tribute to a gallant soldier and a very faithful citizen. He leaves a widow and four daughters, two of whom are married, one to Dr. John Clarke (Coventry), and the other to Dr. James Robertson (Hull).

We have to announce with regret the death of Dr. G. A. F. HEYWORTH of Belper, one of the best-known medical practitioners in Derbyshire. During a hockey match, while playing for Belper against Beeston, he suddenly collapsed and died soon after admission to the Nottingham General Hospital. George Alexander Frederick Heyworth was born in 1881. From Rugby he went to Trinity College, Cambridge, and continued his medical studies at the London Hospital, obtaining the M.R.C.S. and L.R.C.P. diplomas in 1907, and subsequently the degrees of M.A., M.B., B.Ch. at Cambridge. While a student he played hockey for Cambridge University, and later for Lancashire. After a period as house-surgeon to the Children's Infirmary, Liverpool, he began general practice at Belper in 1909. He was a member of the British Medical Association (late chairman of the Derby Division) and of the Derby Medical Society, and among other interests he identified himself with the work of the local ambulance corps and of the Derby Branch of the Church Missionary Society. Dr. Heyworth's standing among his colleagues was shown by his election to both the Derbyshire Insurance Committee and the Derbyshire Panel Committee, and of the latter body he was at the time of his death vice-chairman and honorary secretary; he was also chairman of the Derbyshire Health Week Committee. Dr. H. W. Pooler writes: "A modest, charming, unassuming personality, Dr. Heyworth will be much missed by his colleagues on the Panel Committee. As one of the honorary secretaries of the joint ante-natal committee of the Derbyshire Branch Council of the British Medical Association and the Panel Committee, he was conducting negotiations with the Derbyshire County Council for the greater co-operation of general practitioners in ante-natal work throughout the county." A London consultant

writes: "As a friend and companion of some forty years' standing I would esteem it a privilege to be permitted to add a few words of tribute to the fine character of the late Dr. George Heyworth. We were cousins, and great good friends together at Rugby School, Cambridge University, and the London Hospital, and everywhere we shared rooms and worked in intimate contact. There was never anything in his good clean life which could not be admired—his loyalty to his friends, his devotion, his keenness and enthusiasm for all forms of manly sport, his sincere and Christian character, and his very fervid interest in the profession of his choice. George Heyworth died as he would have wished to die—in the full vigour of his fruitful life—but he had not yet reached the zenith of his power, and, had he lived, a still broader vista would have been open to him. The companions of his youth and of his prime are grateful for an example so inspiring as that of the friend who has been snatched away."

We much regret to record the death, on September 22nd, of Dr. JAMES CRAWFORD MYERS KINNEAR of Wickham, Hants, after an illness lasting several months. James Kinnear was born at St. Cyrus, Kincardineshire, in 1867; and after studying medicine at Aberdeen University, graduated M.B., C.M. in 1889. He practised in Scotland for a few years, and then, in 1900, came south to Wickham. He soon made friends, and rapidly found himself in extensive country practice. He held the appointments of medical officer and public vaccinator for Southwick and Wickham, surgeon to the Post Office, and honorary surgeon to the Shedfield Cottage Hospital. Dr. Kinnear was a good shot, a rider to hounds, and a breeder of horses. In his early days he was always in the saddle, doing his rounds on horseback. In this way, although often overworked and seldom taking a holiday, he managed to keep fit. He was devoted to his patients; especially the poor: they were his friends, their troubles were his, and his generosity to them was proverbial. It is not too much to say that, although a man of strong constitution, his devotion to duty and his unselfishness shortened his life. Dr. Kinnear's passing has left a gap in the district which will be difficult to fill, and he will long be remembered as a wise physician, a kind friend, a lover of the countryside, and a keen sportsman. He married in 1911 Mary Laura Duncan of Curdridge—a most devoted wife and mother—and leaves three sons and two daughters.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

On the occasion of the visit of the King and Queen to Cambridge on October 22nd, when His Majesty will declare the new University Library open, it is proposed to confer the honorary degree of Doctor of Science upon Lawrence Joseph Henderson, M.D., professor of biological chemistry at Harvard University, and upon Karl Landsteiner, M.D., member of the Rockefeller Institute for Medical Research. The Vice-Chancellor, Mr. J. F. Cameron, Master of Gonville and Caius College, in his address to the Senate on October 1st, made detailed reference to the new University Library, with the opening of which a new chapter in the history of Cambridge begins. He recalled the part played by his predecessor, Sir Hugh Anderson, M.D., in securing for the University the great offer by the Rockefeller Foundation, and said that the Anderson Room would commemorate Sir Hugh's services.

UNIVERSITY OF LONDON

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

The following candidates have been approved at the examination indicated:

ACADEMIC DIPLOMA IN PUBLIC HEALTH.—Hyacinth I. Lightbourne, F. G. Macdonald, I. A. MacDougall, L. Roberts.

LONDON HOSPITAL MEDICAL COLLEGE

The Second Open Entrance Scholarship of the value of £100 has been awarded to E. A. Pask (Downing College, Cambridge.)

UNIVERSITY COLLEGE HOSPITAL

Three lectures on the history of medicine will be delivered at University College Hospital Medical School, University Street, W.C., on Mondays, October 15th, 22nd, and 29th, at 4.15 p.m., by Professor Charles Singer. The first lecture will be on Hippocrates, the second on Galen, and the last on Boerhaave. The lectures are open to all medical students of the University.

UNIVERSITY OF LIVERPOOL

The following candidates have been approved at the examination indicated:

DIPLOMA IN PUBLIC HEALTH.—H. V. M. Jones, J. H. St. B. Crosby.

Medico-Legal

DEATH AFTER "CANCER CURE"

Inquest Jury's Rider

The Westminster coroner, Mr. Ingleby Oddie, sitting with a jury, concluded an inquest on October 1st on the body of Alice Bishop, aged 62, a Streatham woman, who died after having been under treatment for four and a half months in a home run by Mr. David Rees Evans of Finchley Road, Hampstead, a herbalist, who professed to have discovered a cure for cancer, the nature of which, however, he had not made public. It was stated that Miss Bishop had remained in the home until September 15th, when, on the advice of a qualified doctor, she was removed to a nursing home, where she died six days later, the cause of death being syncope following toxic absorption due to ulcerated carcinoma, an inoperable growth.

Evidence was given by a woman friend of the deceased as to the condition of the room in Evans's house in which Miss Bishop was a patient. She did not think it was all it might have been, and she did not consider it sufficient to change the bedclothes once a fortnight. A Hampstead medical man stated that he was called in in May to see Miss Bishop at the home of Evans, whom he did not know personally. She told him that she had been suffering from hiccup and pain, and he treated her, but she had suggested that she did not want any treatment for her cancer (of the breast) other than that given by Mr. Evans. The practitioner told her, after one or two visits, that he could not continue to see her in the house of an unqualified man.

Mr. Evans, who was cautioned by the coroner before giving evidence, said that he was 41 years of age, and a "healer of cancer." He had no medical training or knowledge of pathology. He had had four patient-boarders in his home at the same time; his charges were from two to three guineas a week for board and from two to six guineas a week for treatment. He had charged Miss Bishop seven guineas altogether. He met her first in April at a meeting where he lectured on cancer, and where six of his cured patients were present. He examined the growth on her breast, and concluded that it was an advanced case of cancer. She came to him every day for three weeks, and he painted a herbal preparation over the diseased area with a small brush. The object of the paint was to draw the cancerous growth to the surface; it was not a caustic or acid, but he refused to divulge its composition. Miss Bishop had shown some sign of improvement at first, but later lost the will to live. Mr. Evans was questioned concerning an action brought against him by a Mrs. Burrell in 1930, but he denied that the liquid on that occasion was analysed and found to be Venice turpentine.

After two women had given evidence on Mr. Evans's behalf, one of them stating that she had been cured by him of cancer of the breast, the coroner, in summing up, said that it was well that such persons as Mr. Rees Evans should know the risks they were running. Mr. Evans was completely ignorant of medicine and surgery, yet he held himself out as able to cure a disease which had baffled the whole world. If he had such a secret remedy, ought he not to hand it over to the numerous sufferers from this terrible disease? He did not do so; he kept it to himself. The result was to buoy up false hopes, and to intervene between the patients and surgical or deep-ray treatment, which were doing so much in these days.

The jury at first returned a verdict of manslaughter, but the coroner pointed out that for such a verdict to stand it would have to be proved that the treatment had either caused or accelerated death. The foreman replied that eight of the jury had said "manslaughter" and one "gross negligence." They had considered the evidence and the pain the deceased had suffered. The coroner said that pain did not necessarily shorten life. After further consultation the jury returned a verdict that death was due to cancer—that is, natural causes—accelerated by lack of treatment, and in a rider they condemned the interference and negligence of Rees Evans's treatment.

** The case of *Burrell v. Evans*, to which reference was made in the above proceedings, was heard before Mr. Justice Charles and a jury in 1930. The jury were unable to agree on an answer to the question put to them as to whether there had been fraudulent misrepresentations and negligence by the defendant. The case was fully reported in the *British Medical Journal* (1930, i, 1024).

Medical News

The President (Dr. J. S. Fairbairn) and Council of the British College of Obstetricians and Gynaecologists have issued invitations to a dinner party to be held at Claridges' on Monday, November 5th.

A meeting of the Royal Microscopical Society will be held at B.M.A. House, Tavistock Square, W.C., on Wednesday, October 17th, at 5.30 p.m., when papers will be read by Dr. Edwin E. Jelley and Drs. G. M. Findlay and R. D. Mackenzie.

The annual dinner of the Chelsea Clinical Society will be held at Hotel Rembrandt, Thurloe Place, S.W., on Tuesday, October 16th, at 8 o'clock. The president will receive members and guests at 7.30 p.m.

The annual dinner of the Surgical Instrument Manufacturers' Association will be held at the Holborn Restaurant on Friday, October 26th, when the principal guest will be Dr. William H. Ogilvie.

The first part of a course of lectures to be given at the British Red Cross Society's Clinic for Rheumatism, Peto Place, Marylebone Road, N.W., commences on October 18th, and will be continued on alternate Thursdays at 8.30 p.m. to December 13th. The second part of the course will open on January 3rd, 1935, and will be continued on alternate Thursdays at 8.30 p.m. until April 4th (with the exception of February 14th). All inquiries regarding the lectures should be addressed to Dr. M. B. Ray at the Clinic.

A course of three public lectures will be given by Professor L. J. Henderson of Harvard University at University College, Gower Street, W.C., on October 16th, 17th, and 18th at 5 p.m. Professor Henderson's first lecture will be on "Physiological Equilibrium," and Professor A. V. Hill, F.R.S., will occupy the chair.

The British Institute of Philosophy (University Hall, 14, Gordon Square, W.C.) has arranged a course of four lectures on the importance of a philosophy of life for mental health, for the medical profession, on Thursdays at 5 p.m. from November 1st to 22nd. The first lecture, on "The Biology of Social Life," will be delivered by Professor W. Langdon Brown; the second by Dr. William Brown on "Health, Self-determination, and Free Will"; the third, on "Creative Activity and Mental Health," by Dr. Emanuel Miller; and the fourth by Dr. H. Crichton-Miller on "Belief and Adaptation." Applications to attend the course, the fee for which is 12s. 6d., should be made to the director of studies at the Institute.

Free demonstrations of the technique of contraceptive methods will be given at 108, Whitfield Street, W.1, on November 1st and December 6th, 1934, January 3rd, February 7th, March 7th, April 4th, May 2nd, and June 6th, 1935, from 2.30 to 6 p.m. Previous applications for tickets (which will be supplied to medical practitioners only) should be made in writing to the honorary secretary, C.B.C., at that address.

Dr. R. Veitch Clark, medical officer of health for Manchester, will deliver his presidential address to the annual meeting of the Society of Medical Officers of Health on Friday, October 19th, at 5 p.m., at 1, Upper Montague Street, W.C.

The South-West London Medical Society announces a new series of lectures beginning on October 17th, when Dr Russell J. Reynolds will speak on cineradiography. All medical men are welcome at this meeting. Other lectures will be given as follows: November 14th, Dr. L. J. Witts: "Diagnosis and Treatment of Anaemia." December 12th, Discussion on anaesthesia, "Ether is not Dead," to be opened by Dr. Z. Mennell and Dr. M. D. Nosworthy. January 9th, 1935, Mr. B. Whitchurch Howell: "Orthopaedic Cases in General Practice." February 13th, Dr. Donald Paterson: "So-called Acidosis Attacks." April 10th, Dr. G. E. S. Ward: "The Failing Heart." May 8th, Mr. Terence Millin: "The Obstructing Prostate." The session will conclude with the Bolingbroke Lecture, on June 12th, by Dr. Robert Hutchison, entitled "Constitutional Medicine." Meetings are held at the Bolingbroke Hospital, Wandsworth Common, S.W.

The fifth centenary of the foundation of the University of Catania will be celebrated from October 19th to 22nd.

A series of post-graduate lectures will be given at Ancoats Hospital, Manchester, on Thursdays at 4.15 p.m. from October 18th to December 13th inclusive.

The Fellowship of Medicine, 1, Wimpole Street, W.1, announces that lecture-demonstrations will be given at 11, Chandos Street, W., at 2.30 p.m. on October 16th and 23rd. Courses of instruction include week-end courses in clinical surgery at the Royal Albert Dock Hospital on October 20th and 21st; and in diseases of the chest at the Brompton Hospital, on October 27th and 28th; a fortnight's course in gynaecology at the Chelsea Hospital, October 22nd to November 3rd; a week's course in neurology at the West End Hospital for Nervous Diseases, October 29th to November 3rd. Cases will be demonstrated at the National Temperance Hospital, Hampstead Road, at 3 p.m. to-day (Saturday), October 13th. A course of lectures on diet and dietetics will take place on Wednesdays at 8.30 p.m. at 11, Chandos Street, W., from October 24th to December 12th. The first will deal with general principles of dietetics, and will be followed by diet of infants, of the diabetic, of the obese and thin, for convalescents and aged, in deficiency diseases, in the nephritic, and in gastric diseases. Courses and clinics are open only to members and associates of the Fellowship.

At a meeting of the Académie des Sciences in Paris on October 2nd, Dr. Nicolle, director of the Pasteur Institute of Tunis, gave an account of recent investigations by his collaborator, Dr. Joan Laigret, into the mechanism of immunization against yellow fever. In the course of three months more than 3,000 persons have been inoculated against yellow fever in French West Africa, and the results have been so satisfactory that the authorities have decided to make vaccination against yellow fever compulsory.

The Hanbury memorial gold medal of the Pharmaceutical Society of Great Britain has been awarded to Dr. George Barger, F.R.S., professor of chemistry in relation to medicine in the University of Edinburgh. This medal is for "high excellence in the prosecution or promotion of original research in chemistry and the natural history of drugs."

The second Italian Congress of Industrial Medicine will be held at Turin from October 20th to 23rd.

A new apparatus for the treatment of cancer by high-voltage x rays has been given to the Birmingham General Hospital by Sir Herbert Austin, who has also provided the building which houses it, at a total cost of £4,000.

The issue of *Paris Médical* for September 22nd is devoted to psychiatry.

Professor P. Nobécourt has been elected president of the Société de Pédiatrie of Paris.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

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All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBER of the British Medical Association and the *British Medical Journal* is EUSTON 2111 (internal exchange, four lines).

The TELEGRAPHIC ADDRESSES are:

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The address of the Irish Office of the British Medical Association is 18, Kildare Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumshough Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

QUERIES AND ANSWERS

Localized Flushing

"H. H. B." writes from Lancashire: I should be much obliged if any of your readers could offer suggestions as to appropriate treatment in the following case. A young unmarried woman, aged about 20, suffers from patchy circumscribed areas of flushing on very slight provocation, chiefly on the face, neck, and upper chest. Her general health is good, her only complaint being a certain degree of simple anaemia, which responds readily to treatment with iron preparations. She is not a particularly nervous type either. I presume that the cause must be some disturbance of the vasomotor mechanism.

Treatment of Erythema Annulare

"S.O.S." writes: I shall be most grateful for advice regarding a patient who gets frequent recurrent attacks of erythema annulare. The rings vary in size; they only come on the outside of the thigh (right); irritation is great, and treatment—external and internal—is a failure. A friend suggested to the lady to use a cloth soaked in hot water to slap the part. This she does, and it is the only application that gives temporary relief from the terrible itching. Calamine lotion with carbolic acid does help a little at times, but the rings return. A sister has had chilblains which nobody can cure. Another sister gets erythema nodosum, which has baffled doctors galore.

Djuresis in Case of Pituitary Tumour

Dr. T. MACCARTHY (Sherborne, Dorset) would like to know if an explanation can be given as to the source of the fluid excreted by a case of pituitary tumour in which the patient over a period of four months has passed an average of 240 ounces daily, her average intake not having been more than 80 ounces from all sources, and often less than 60 ounces daily. Meanwhile she has lost no weight. It appears to be a mystery—where the fluid comes from. Does she absorb it from the air? I can think of no other answer. She is not very thirsty, and shows no signs of dehydration.

Income Tax

Retirement from Foreign Practice

"R. S." is carrying on a practice abroad, and proposes to sell it, as from April, 1935, and return permanently to this country. His income then will consist of (1) dividends on investments, (2) war disability pension, and (3) probably proceeds of locumtenent work. On what basis will he be assessed?

* (1) In so far as they are not taxed by deduction, on the basis of the yield of the investments in the previous year—or the current year for 1934-5. (2) No liability to tax. (3) On the current year's earnings, except that if

"R. S." does that sort of work for two or three years he will probably be assessed on the previous year's basis, except for the first year.

Compensation for Loss of Office

"HOPEFUL" is in receipt of compensation for loss of office paid quarterly. Is it liable for payment of income tax, and, if so, is it regarded as earned?

** A lump sum by way of compensation would not be liable to tax, even if by arrangement paid in instalments. But the sums received in this case are apparently quarterly payments for an indefinite period, and would seem to be more in the nature of a pension. In that case they are liable as earned income.

LETTERS, NOTES, ETC.

A Case of Erythroedema

Dr. J. A. MOORE HALL (Shotts, Lanarkshire) writes: I was recently called to see a female child, aged 13 months. For several weeks the mother noticed that the little patient was becoming very restless and irritable. Naturally, she attributed the condition to dentition. However, when the greater part of the night's rest was broken by the crying of the baby, she thought it time to consult the doctor. On examination the patient's hands and left foot were found to be swollen and red and cold to the touch. This was accompanied by profuse perspiration and marked photophobia. There was loss of appetite and weight, together with constipation. The pulse was accelerated, but the temperature was found to be, and remained, subnormal. The urine was free from albumin. There was no evidence of rickets. A day or two later a very irritable sweat rash appeared on the neck and body, but this condition was soon relieved by the application of a lead and tar lotion. With rest in a shaded room and sedative treatment, the above signs have improved, but there are still marked general asthenia and muscular hypotonia. In my opinion, the child is suffering from erythroedema, which is also known as pink disease on account of the curious pink or red colour of the hands and feet. I am led to write this communication regarding an uncommon disease found in general practice, as I feel sure that many of my fellow-practitioners have met with cases similar to the above, which have proved puzzling. The main signs of the fully developed condition have been aptly described by A. Victor Neale in an alliteration of the words beginning with "P": peevishness, pinkness, pallor, perspiration, papules, peeling, pulse, posture, photophobia, paraesthesia, paresis, pyuria. The disease usually attacks children from 3 months to 5 years of age, even those who are well nourished, and lasts from three to nine months. The cause of the condition is unknown, and there is no specific treatment. A peripheral neuritis mainly affecting the sensory nerves, and showing a secondary vasomotor disturbance of the extremities is the principal pathological finding. Violet-ray treatment and raw liver (1 to 2 oz. daily) are said to have a beneficial effect. Fresh air, warmth, subdued light, rest, wholesome food, together with a lotion for the troublesome rash, are essential. Convalescence is usually slow, but the prognosis is good.

The Swab in Diphtheria Diagnosis

Dr. JANET M. C. GRAY (Lewisham) writes: I have read with much interest the letters on diphtheria in the *Journal* of September 22nd and 29th. Most of the time I have been working in India, but was home on furlough in 1915, and for a short time was doing general practice. I had a fair number of cases of diphtheria in children: in each case, after taking a swab, I injected a full dose of the antitoxin, and all the cases recovered. As I never got an answer about the swab until the next day—it was a place in the country—I think the results might have been different had I waited. In India diphtheria is very rare, and, although I never had a case, I always kept antitoxin by me, because I felt so strongly there was no time to be lost.

Evipan Anaesthesia

Dr. J. T. SPIRIDION (Hankow) writes: I would like to add my own very satisfactory experiences with sodium evipan to those of Dr. Burke, published in the *Journal* of August 11th (p. 285). During the past three months I have used this anaesthetic on ten patients only—nine Europeans and one Chinese. It was given for the following minor operations: tooth extractions, four; opening deep abscesses, two; curettage, one; setting a fractured femur, one; repair of

perineum, one; repair of crushed toe, one. No premedication was given in any of the cases: in one only was the operation performed by myself. All the patients enjoyed good general health, although two were alcoholic subjects; one of these required 11 c.cm. before losing consciousness—an unusually large dose—and the other suffered from a severe rigor one hour after the operation. In all the other cases the anaesthetic proved perfectly satisfactory and pleasant for both surgeon and patient. The theatre temperatures during the operations varied from 85° to 99° F., the average temperature being 92.4°. Sodium evipan does not, therefore, appear to exert any harmful effect on the liver during its detoxication, although the liver functions are easily upset in such hot weather. I believe the drug to be a very suitable anaesthetic in tropical areas where nitrous oxide is unobtainable.

Bacteriological Warfare

"M.D." writes from Yorkshire: We have read many articles recently in the popular press about destroying vast populations by bacteria spread from aeroplanes so cunningly that they can even find their way down the moving stairs into the tube stations. How horrible! Unfortunately I am not a bacteriologist, and so I appeal for information as to what variety of coccus or bacillus might be the innocent agent of such a campaign. I could conceive of masses of bacilli of the typhoid group being thrown down on water supplies, but it would be easy to combat this by boiling our drinking water. Again, would showers of *B. pestis* produce plague in the towns powdered with them, as a flea is usually the agent which carries it, so that it would be necessary to breed huge quantities of infected fleas and broadcast these in order to affect the underlying population to any appreciable extent. Even throwing down influenza germs would probably cause more stir among the bacteriologists, who would be arguing about their exact nature, than among those contaminated. But seriously, it appears to an ordinary physician that many alarmist declarations have been made in the Press for which there is inadequate bacteriological basis; or are there bacteria which are capable of infecting masses of people who come in contact with them casually, as they would were the germs spread from aeroplanes?

Gonococcal Infection

Dr. R. V. STORER (London, W.1) writes with reference to the notice of his book *Gonococcal Infection: Recent Advances in Pathology, Diagnosis, and Treatment*, which appeared in our issue of September 29th (p. 595): My views on this disease may seem "frankly heretical" to your critic, according to his own standards, but they have been accepted by venereologists in this country and America as being "sound and rational." Mr. Kenneth Walker, in his foreword, pointed out that this book "was marked by originality of thought and freedom from conventional views," but also suggested that "the fact that some of the author's dicta will meet with opposition is surely no disadvantage." When a medical man presents the results of his private research and clinical experience to his fellow practitioners, especially if his methods depend on a new concept of the pathology of a disease, I suppose he must expect to be called a "heretic," even though he is able to report a maximum degree of success. Your reviewer complains that the book contains "far too many errors," yet he mentions a trivial one only—namely, a figure based on a simple mental calculation, the mistake in which would be obvious even to a schoolboy. It has not been my desire to pose as a pontiff, as your critic suggests, but to present in all humility, and with due appreciation of its shortcomings, a clear, concise account of recent advances in gonococcal infection, based not only on the published works of other authorities, but on an experience gained by the intensive personal study of over five hundred cases throughout their course.

On October 15th the Edinburgh Branch of Watson and Sons (Electro-Medical) Limited, is moving to more commodious premises at 86, George Street, where there will be improved facilities for service work, and a showroom for the demonstration of apparatus.

Vacancies.

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 47, 48, 49, 50, 51, 54, 55, and 56 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 52 and 53.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 204.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

255 Epidemiology of Whooping-cough

C. HÜNERMANN (*Deut. med. Woch.*, June 29th, 1934, p. 978) has made a practice during the past two years of getting all the children in the whooping-cough section of his hospital to cough on to Bordet-agar-blood-culture plates, and he has succeeded in thus finding the Bordet-Gengou bacillus both in the catarrhal stage of the disease and during the first four to six weeks of the convulsive stage. After this interval repeated cough tests failed to demonstrate this bacillus—an observation from which the author concludes that whooping-cough is infectious only during this interval. A search for carriers of the Bordet-Gengou bacillus proved negative in the case of children showing no sign of disease. But in a certain number of cases this bacillus was found in children subject to a more or less obstinate cough in which there was no whooping element. It would appear, therefore, that even in children who have never received prophylactic vaccination against whooping-cough this disease may still exist in such a light, abortive, and atypical form that its true nature would be overlooked in the absence of a bacteriological examination.

256 Primary Mumps Orchitis

C. M. HOOGENBOOM (*Nederl. Tijdschr. v. Geneesk.*, July 14th, 1934, p. 3275) records the case of a man, aged 37, who developed right orchitis, epididymitis, and deferentitis nineteen days after his daughter had developed mumps. He had had no injury to the testis, and there was no evidence of gonorrhoea. Six days later his two sons showed bilateral parotitis, and on the following day he developed left parotitis himself. Complete recovery took place without any testicular atrophy.

257 Odd Reactions to Tuberculin

H. HOFF (*Wien. med. Woch.*, July 14th, 1934, p. 811) records the case of a 54-year-old patient who responded to therapeutic injections of tuberculin with attacks of trigeminal neuralgia. They occurred even when the dosage of tuberculin was most timid. Another patient, aged 34, responded to therapeutic injections of tuberculin by suddenly seeing bright-coloured rings which rapidly approached him. He would then fall and lose consciousness for a few minutes, and would feel very tired after recovering from such an attack. It should be noted that he had been subject to similar attacks before treatment with tuberculin was instituted. In a third case, that of a woman aged 35, injections of tuberculin were followed by slight tetanic convulsions.

258 Aortic Stenosis

S. MCGINN and P. D. WHITE (*Amer. Journ. Med. Sci.*, July, 1934, p. 1) record conclusions drawn from a review of 4,800 cardiovascular cases seen in private practice and 6,800 hospital post-mortem examinations. This material produced 123 cases of aortic stenosis proved by necropsies and 113 clinical cases. In the post-mortem series aortic stenosis occurred nearly as often as mitral stenosis, but was less frequent in the clinical series owing to the difficulty of recognizing slight degrees during life. The authors think it justifiable to make this diagnosis when a loud, harsh systolic murmur is heard in the region of the second right intercostal space and is transmitted to the neck in the absence of pronounced aortic dilatation due to syphilitic aortitis or marked hypertension, especially when there is evidence of other valvular deformity or a history of rheumatic infection. An aortic systolic thrill, a diminished or absent second aortic sound, a plateau pulse, and an aortic diastolic murmur are important confirmatory findings, but are not essential to the diagnosis, being later signs. The presence or absence of calcareous changes in the aortic cusps is said clinically to be rela-

tively unimportant as compared with the aortic stenosis itself, except in so far as it alters the degree of stenosis or aids in the x-ray diagnosis. Patients with pronounced aortic insufficiency in addition to aortic stenosis had a shorter terminal illness and died younger than did the cases where stenosis predominated. The authors are satisfied that all grades of aortic stenosis exist, with varying symptoms and signs, much as in the case of mitral stenosis. The aortic form, even of considerable degree, is common, particularly in males; is often caused by rheumatic infection; is less serious than aortic regurgitation of high degree; and is sometimes associated with considerable hypertension. It is often overlooked, and special search should be made for it, even in the lesser grades, because of the progressive nature of the lesion and the frequency with which it is associated with congestive heart failure.

259 Thoracic Trauma and Pulmonary Tuberculosis

Citing numerous cases from the literature and two personal cases, N. N. STOICHTZA (*Presse Méd.*, June 30th, 1934, p. 1051) states that pulmonary tuberculosis can be caused by thoracic contusions. Penetrating wounds are not usually followed by this complication, since as a rule they mortally injure the heart or large vessels, thus causing fatal haemorrhage. Infection of the contused pulmonary area through the respiratory passages or by bacilli circulating in the blood has been advanced as a possible pathogenic factor. Distension of the lung, due to a reflex occlusion of the glottis preventing expiration, is the essential cause of the rupture during trauma. The injured tissue with the consequent haematoma forms an excellent medium for the development of the Koch bacilli. In most cases the thoracic contusion activates a latent tuberculosis; occasionally it aggravates an active one. The onset of post-traumatic pulmonary tuberculosis may consist of haemoptysis, or it may be pneumonic or pleuritic. The site of the lesion usually corresponds to the injured area. In most cases the clinical signs appear in three to six months after the trauma, and the evolution of the disease is, as a rule, rapid and grave.

Surgery

260 Tuberculosis of the Knee in Adults

H. WALDENSTRÖM (*Hygiea*, June 30th, 1934, p. 401) has come to the conclusion that operative treatment is indicated in every case of tuberculosis of the knee in adults as soon as it has been diagnosed with certainty. In the past the results achieved in different quarters in the treatment of this disease have varied greatly with the correctness of the diagnosis, the successes being directly proportional to the mistaken diagnoses. A clinical examination, supplemented by an x-ray examination, is, he states, inadequate. The correct diagnosis can with certainty be made only by an expert microscopical examination of the capsule of the joint and of an effusion in it. After aspiration, this fluid should be injected into a guinea-pig or two. If the guinea-pig test is negative, a snip of the synovial membrane should be examined by an expert for tubercle bacilli and typical tubercles. It is well to defer such an exploratory excision of the capsule of the joint for some time in order that the tuberculous disease, if present, may have extended to the whole of the joint, otherwise an exploratory excision may yield an island of still healthy tissue. During the past ten years the author has applied these criteria to twenty-five persons over the age of 17. In twenty of these cases tuberculosis was diagnosed on the strength of an exploratory excision, and in the remaining five on that of a guinea-pig test. Both tests were employed in six cases. In as many as nineteen of the twenty-five resection was performed, in all but two instances after protracted conservative treatment had proved

futile. Whatever the treatment, there are only two alternatives—ankylosis, or retention of some degree of mobility. The former can be achieved much more rapidly by an operation than by conservative treatment, and if it assures the retention of movement there is always the prospect of a relapse, even years after an apparent cure, as a result of a long walk or other excessive claim on the joint's functional capacities.

261 Traumatic Aneurysm of the Subclavian Artery

W. LEE, C. MITCHELL, and A. PEACOCK (*Ann. of Surg.*, July, 1934, p. 87) point out that, though the onset of aneurysm of the subclavian artery is so gradual as to obscure the diagnosis, yet a correct one can usually be made when there is a history of trauma, signs of swelling, expansile pulsation, a bruit, and an increasing severity of symptoms. Conservative treatment is sometimes advocated, but is not so successful as operation, particularly in cases of traumatic aneurysm. Good operative results depend on prolonged and safe anaesthesia, adequate exposure, repair of the vessel, and post-operative care. Avertin, with ether inhalation, has proved a satisfactory anaesthetic. The two routes of exposure are: the anterior, in which the location and type of incision are variable; and the posterior, which passes through the posterior mediastinum and may be used in cases involving the first portion of the left subclavian artery. With the anterior approach a partial resection of the clavicle is necessary to gain adequate exposure. Operative technique must depend upon the condition encountered, and may consist of ligation, excision, or endo-aneurysmorrhaphy. Post-operative complications consist of primary or secondary haemorrhage, shock, collapse of the lung, gangrene of the extremity, and infection. Complete rest, by means of a cast, bandage, or splint, is absolutely essential after operation, and large doses of sedatives are necessary. A record is given of 128 cases of traumatic aneurysm of the subclavian artery, and one case is reported which originated from the first portion of the artery and was successfully excised, the opening in the artery being closed with lateral sutures.

262 Treatment of Hydrocephalus

T. J. PUTNAM (*New England Journ. Med.*, June 28th, 1934, p. 1373) describes a method of treating hydrocephalus by coagulation of the choroid plexus. The ventriculoscope used carries a tiny bronchoscope light and electrodes for diathermy. Through a trephine hole the apparatus is passed into the lateral ventricle and down to the fossa in which the plexus lies. The current is turned on and carefully limited coagulation ensues, the tissue within the field of operation turning from red to white. Avertin anaesthesia is usually employed, but the patient generally moans slightly when the coagulation begins. The reaction to the operation is slight, and directly proportional to the amount of haemorrhage. The infant is often able to resume its feedings in two or three hours. Each ventricle is dealt with separately, an interval being introduced between the two operations. The author states that endoscopy with coagulation has been performed twelve times in seven unselected cases of hydrocephalus, the age of the infants ranging from one to eighteen months at the time of the operation. In most of the cases hydrocephalus had been the sequel of operations for meningocele. Two patients died, but it is doubtful whether either death could be ascribed to the operation. The procedure seemed to have no ill effects on the mentality. Two patients had a few convulsions in the subsequent fortnight, but no other complications were observed. Putnam remarks that, considering the otherwise almost hopeless outlook in hydrocephalus, the immediate results of this treatment appear encouraging. The relief of the intracranial pressure was always manifest, bulging of the fontanelles was terminated, and the diameter of the head was decreased in all cases except one. There would seem to be at least as much hope of permanent benefit as in the more immediately dangerous operation of removing the choroid by open operation.

706 B

Therapeutics

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Dietetic Treatment of Obesity

According to G. A. HARROP (*Journ. Amer. Med. Assoc.*, June 16th, 1934, p. 2003) a diet having as its basis bananas and milk is an effective way of treating obesity, and is commended on the grounds of simplicity, low cost, ready availability, palatability, high satiety value, and low salt content. The strict diet consists of six large bananas and 1,000 c.cm. of skimmed milk, taken in three or four meals, which are spaced according to the individual preference. The calorie value of this is estimated as being 940. A salad of a quarter medium-sized head of lettuce, or of an equal quantity of cabbage, is a useful and valuable supplementary at one meal during the period of strict dieting. In about ten days to a fortnight there is a loss in weight of four to nine pounds in persons who are moderately active, and who continue their usual routine. Reduction to four bananas daily is well tolerated by many, and the results are said to be more striking; weakness and severe physical discomfort must be avoided. Fluids without food value, including tea and coffee but without milk and sugar, are freely permitted, but salt is avoided in order to obviate retention of fluid in the body. At least six large glasses of fluid must be taken daily in addition to the milk. After about a fortnight the diet is modified by the gradual substitution of one or two bananas by one or two eggs and a little butter. Green vegetables may also be taken with butter poured over them, though not used in the cooking. Then lean meat, fish, or poultry can be added, but no pork or thickened gravy. The strict and modified diets are alternated, each continuing for about a fortnight at a time. The limit to which weight reduction can be continued is given as one or two pounds a week, or five to ten pounds a month. Some hunger and weakness at the start of the treatment are not uncommon, and need not be considered as deterrent, being replaced at the end of a week by a feeling of well-being. Weight loss in excess of two or three pounds a week indicates an undue loss of water, except when the diet has been markedly curtailed. The larger losses at the beginning of treatment represent the displacement of water from the tissues, and this should be explained to the patient to prevent alarm. The author adds that although the nitrogen intake is low on this diet the nitrogen balance was maintained fully in six cases observed, and only slightly reduced in four others.

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Application of Vitamin A to Wounds

Z. HORN and S. SANDOR (*Deut. med. Woch.*, July 6th, 1934, p. 1018) report from their hospital in Ujpest observations on the action of an emulsion and an ointment of high vitamin A content on wounds liable to become septic, and in cases of phlegmon, tendo-vaginitis, carbuncle, lymphadenitis, etc. The same treatment was also applied after operations for appendicitis, gall-stones, etc., when the wounds were left open. The preparation of vitamin A contained 2,000 international units per c.cm., and the name given to it by the firm of Richter in Budapest was "vulnovitan." The investigations were conducted in a surgical hospital, but the authors make no reference to any control tests. After immobilization had been effected by splints, extension, etc., and the neighbourhood of the wound had been cleaned, the emulsion or ointment was applied, and a layer of gauze, saturated with the oil, was secured in place. Six to eight days later, when the dressings were changed, there was a lively growth of granulation tissue showing no inflammatory reaction. The system previously adopted of irrigating the wounds, chiefly in a bath, was found to be injurious in association with this new treatment. It not only facilitated the escape of discharge from wounds already septic, but it also inhibited secondary infections by the promotion of granulation tissue, the growth of which was apt to be even too luxuriant. When this happened, mild antiseptic dressings had to be applied

alternately with the vitamin A dressings. The authors suggest that the success recently achieved by Löhr in the local treatment of wounds with cod-liver oil may depend on the same principle that they have exploited.

Anaesthetics

265 Lumbar Anaesthesia with Pantokain-L

O. UTTER (*Finska Läkarsällskapets Handlingar*, May, 1934, p. 428) has studied the effects of lumbar anaesthesia with pantokain-L in a Finnish hospital in which, since the autumn of 1933, 162 out of 1,350 major operations were performed by this means. In 144 cases the anaesthesia was perfectly satisfactory, and in fifteen cases—nervous patients for the most part—it was necessary to supplement with a little ether, the dosage of which was only 10 to 30 grams—that is, enough to have a merely psychic effect on the patient by virtue of the smell. In only three cases was the anaesthesia a failure, possibly because anatomical anomalies prevented the deposit of the anaesthetic in the desired place. A blood pressure of 100 mm. of mercury or less was considered a contra-indication for this form of lumbar anaesthesia: when this rule was broken, a preliminary injection of "racedrin" was given to prevent a further fall of the blood pressure. A smaller dose of racedrin was given when the blood pressure was normal. In at least two cases complications associated with the anaesthetic were traced to the neglect of a preliminary measurement of the blood pressure, and the author is most emphatic as to the necessity of such measurements. A quarter of an hour before the administration of the pantokain-L, morphine and hyoscine should be injected subcutaneously; they hasten the action of the pantokain-L and render the patient less nervous during the operation. The severe headache supposed to follow pantokain-L anaesthesia was never observed by the author, who connects his freedom from this complication with his adoption of the Trendelenburg position, with the head so low that the spine forms an angle of 5 to 10 degrees. Several of the patients could not have taken a general anaesthetic because of their advanced age, high blood pressure, fatness, or pulmonary complications. This selection of the unfittest for pantokain-L anaesthesia must be taken into account with the admission that the complications among the author's cases were perhaps more frequent than after an ether anaesthesia. Convalescence was, however, remarkably satisfactory on the whole, particularly in connexion with that gas retention which is apt to follow laparotomies. The author is most appreciative of this anaesthetic in gynaecological operations, which constituted sixty-two of the total of 162 operations. Pneumonia did not follow one of them.

266 Combined Avertin and Nitrous Oxide Anaesthesia

Based on the results in 600 cases, DESMAREST (*Presse Méd.*, May 19th, 1934, p. 811) advocates combined avertin and nitrous oxide as a most valuable anaesthetic. It should not, however, be given as routine in all cases. Avertin (the French "rectanol") is not a true anaesthetic but only produces a calmer sleep; narcosis must be attained by a complementary narcotic, and as nitrous oxide is the sole physiologically perfect anaesthetic, this is chosen. Contraindications to this anaesthesia are a bad general condition of the patient (its use is dangerous in debilitated conditions or renal and hepatic diseases) and arterial hypotension. The oculo-cardiac reflex and basal metabolism are valuable guides to correct dosage. These, especially if concordant, indicate the patient's resistance or sensibility to anaesthesia of the base. The duration of the operation also governs dosage—the longer the operation, the larger the dose required. Pantopon, given one hour before the avertin enema, is an excellent adjuvant. Nitrous oxide administration should be started twenty minutes after giving the enema. Narcosis during the operation is rarely disturbed. Should respiratory symptoms arise, carbon dioxide should be administered.

Avertin does not cause as great a lowering of blood pressure as was first supposed, and the nitrous oxide usually suffices to restore the equilibrium. If after operation the arterial tension is low and remains so, an injection of ephedrine (1 c.cm.) should be given. Tardy awakening is due to an imperfect elimination of the avertin; such cases should be closely watched and, if awakening does not occur in one or two hours, subcutaneous injections of coramine or cocaine should be given; thyroxine is also useful. Post-operative complications are less frequent with this combined method than with nitrous oxide alone or with ether. Pulmonary complications are seldom noted, and avertin has no unfavourable action on the hepatic or renal functions when these are normal before operation; if renal or hepatic lesions exist, the drug must be used with great caution. Repeated anaesthesias with avertin can be safely given. A further advantage to the use of this combined form of anaesthesia is that it is agreeable to and not feared by patients.

267 Evipan Anaesthesia in General Practice

In order to indicate the suitability of intravenous injections of sodium evipan for inducing anaesthesia in general practice T. S. NICOL and T. M. BELL (*Charing Cross Hosp. Gaz.*, July, 1934, p. 100) record summaries of twelve cases in which it was used for such minor surgery as the opening of boils and abscesses, the removal of nails, needles, and splinters, and the incising of whitlows. An ampoule producing 10 c.cm. costs 2s. 3d. The solution in sterile water is slowly injected into a vein until the patient yawns or loses consciousness, when a further 2 or 3 c.cm. is introduced according to the length of anaesthesia needed. From three to five minutes of full anaesthesia follows, after which the patient may sleep for several hours. Muscular relaxation was poor. Evipan can, it is stated, be administered single-handed, although it is better to have an assistant to hold the arm during the injection, since the patient may sometimes make clonic movements. Slight dizziness may ensue, and patients should not be allowed to go out alone in the succeeding three hours. Other precautions advised are urine testing and inquiry as regards previous nephritis, prevention of the tongue falling back, and the availability of coramine in case of collapse—precautions which apply to any other anaesthetic. There are said to be no unpleasant after-effects.

Obstetrics and Gynaecology

268 Premature Placental Separation

T. L. MONTGOMERY (*Amer. Journ. Obstet. and Gynecol.*, July, 1934, p. 33) finds as the result of a careful investigation of over 4,000 obstetrical histories that the diagnosis of premature separation of the placenta is not infrequently confused in the less severe cases with that of lateral placenta praevia. If the two conditions are carefully differentiated, premature separation of the normally implanted placenta would appear to be a less frequent complication of pregnancy than placenta praevia. The type of treatment and the method of delivery have to be adapted to the circumstances of the individual case. Caesarean section is reserved for those instances in which the cervix is closed, and the contraction of the uterus is ineffective in producing dilatation—where longer waiting implies more bleeding. In the author's series of sixteen cases of definite premature placental separation there was one maternal death, a rate of 6.6 per cent. The foetal mortality rate was 81 per cent. Twelve of the sixteen foetuses were premature. Montgomery considers external violence an infrequent cause of placental separation. Various degrees occur often during the course of labour in consequence of intra-partum attempts at delivery, or of a sudden decrease in the volume of the content of the uterus. The most frequent aetiological factor in premature separation is toxæmia of pregnancy, abdominal trauma, accounting

for only an occasional case. Renal toxæmia is more often encountered as a cause than is pre-eclampsia or eclampsia. The author considers that there is no reason to invoke the presence of some new or strange type of toxic disturbance to account for this disturbance. The characteristic lesion in the placenta is hæmorrhage. Interruption of pregnancy often follows, although the presence of old hæmatomas on the surface and in the substance of the placenta in cases of nephritic toxæmia indicates that small hæmorrhages frequently occur without terminating pregnancy. These hæmorrhagic lesions are quite different in structure and aetiology from placental infarctions. Necrosis (infarction) is found frequently in the placenta of both normal and toxic patients. Its presence appears to play no part in the aetiology of placental separation or pregnancy toxæmia.

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Virginal Leucorrhœa

Reporting research work on leucorrhœa in virgins, R. CRUICKSHANK and A. SHARMAN (*Journ. Obstet. and Gynaecol. British Empire*, June, 1934, p. 369) find (1) the non-infective type of secretion to be white, viscid, cheesy, containing Döderlein's bacillus, and having an average pH of 4.4. This type appears along with excess of glycogen deposit in the vaginal epithelium, and is connected with the presence of increased quantities of oestrin. It is found also in the newly born, and very strikingly in pregnancy. The suggestion is made that such non-infective leucorrhœa may occur in virgins (or similarly after marriage) when the normal balance between the anterior pituitary and ovarian hormones is disturbed. Treatment must not be that used locally for infective types, but general. Hormone therapy had not so far proved successful. The use of "antuitrin-S" is suggested for trial. In some cases only was there other evidence of endocrine imbalance. The research is to be pursued with monkeys. (2) *Infective* virginal leucorrhœa was traced to *Trichomonas vaginalis* in the majority of such cases, the discharge being watery, yellow, and generally irritating. One case of monilia was found. Tubercle is an occasional cause.

270. Abortion in Human Infection by B. Abortus

(Bang)

F. WITENSTEIN (*Zentralbl. f. Gynäk.*, July 7th, 1934, p. 1583) describes a case of spontaneous abortion in the fourth month in a female cook who had had a three weeks' illness diagnosed first as influenza, then as typhoid fever, and finally (serologically) as Bang's disease. Abortion in the human (unlike the bovine) infected subject is very uncommon, and may be held to be an unspecific reaction, such as might occur in any febrile disorder. That explanation seems to be contraindicated, in the present case, by the facts that expulsion of the placenta had been preceded by a specific vaccination, and that its removal by curetting was followed by a negative serological test. In the cow Bang's disease is followed by sterility; but Witenstein's patient later became pregnant twice. Allusion is made to Schürer's case, in which a gynaecologist became infected with Bang's bacillus during a curetting.

271

Tertiary Syphilis of the Uterus

P. LIZET (*Thèse de Paris*, 1934, No. 444), who records five illustrative cases in women aged from 19 to 41, states that syphilis of the uterus is much more frequent than is generally supposed. Lesions of the cervix must be distinguished from those of the body of the uterus. The former are usually due to direct infection, while the latter are mostly the result of congenital syphilis. Tertiary syphilis of the body of the uterus assumes the gummatous form, the lesions being mainly vascular or perivascular, with the result that hæmorrhage, death of the foetus, and abortion are liable to occur. In all cases of metrorrhagia of which the cause is doubtful, antisypilitic treatment should be tried before an extensive operation, curetting, or even radiotherapy, is carried out.

706 D

Pathology

272

A Modified Aschheim-Zondek Test

A. MANDELSTAMM and E. KAPLUN (*Wien. klin. Woch.*, June 29th, 1934, p. 813) state that the ordinary Aschheim-Zondek test for pregnancy has two drawbacks—namely, it takes about 100 hours and requires the relatively large number of five infantile mice. They found that the time consumed could be cut down to fifty hours by the intravenous injection of detoxicated urine into the tail vein. This requires a little practice, and must be done slowly to prevent the occurrence of shock or embolism. Adult mice are used in their modification and three injections of 1 c.cm. urine are given in the first twenty-four hours, and one the following morning. The mice are put in cages which are irradiated with infra-red light from lamps of 40 to 200 watts for two days before the injection and immediately afterwards. Forty-eight hours after injection laparotomy is done through an incision from the back parallel to the spine. In the kidney region a window is made in the peritoneum through which the ovaries are drawn out and inspected with the naked eye or by means of a lens. Macroscopic hæmorrhages into the ovaries can be observed with ease. The ovaries are replaced and the wound closed with two to three stitches. The mice can be used again after one month. The test requires two mice or even only one mouse. Positive results are obtained in 98 per cent. of cases. The advantages of this modification are stated to be: reduction of time; reduction of the number of mice used; accuracy; use of adult mice, which are easily and cheaply obtained, and which may be used again.

273

Cultivation of the Gonococcus

J. W. McLEOD, J. C. COATES, F. C. HAPFOLD, D. P. PRIESTLEY, and B. WHEATLEY (*Journ. Path. and Bact.*, July, 1934, p. 221) describe a method for the cultivation of the gonococcus that has proved of great value in routine diagnosis. The medium used is a 10 per cent. heated blood agar, prepared from broth made according to Wright's method. The essential feature of Wright's method is the addition of the peptone before the meat is extracted; in this way inhibitory bodies, which are normally formed as a result of the oxidation of the peptone during autoclaving, are reduced by substances in the meat. The percentage of agar in the medium is kept as low as is consistent with stability. The plates are incubated at 36° C. for eighteen hours in a closed jar containing air, 8 per cent. of which has been replaced by carbon dioxide. A further incubation for twenty-four hours is carried out under ordinary aerobic conditions. Comparative experiments have shown the beneficial effect of carbon dioxide on the growth of the gonococcus in primary culture. After incubation is complete, a 1 per cent. solution of tetramethyl-*p*-phenylenediamine hydrochloride is poured over the plate and run off immediately. The effect of this solution is, by an oxidase reaction, to turn gonococcal colonies a bright purple colour. Medium-sized convex and translucent colonies which rapidly turn a bright purple, and which consist microscopically of Gram-negative diplococci, are accepted as gonococci. For complete identification, when necessary, the colonies can be picked off, and the organisms studied by fermentation reactions and their ability to grow on ordinary nutrient agar. Occasionally, colonies giving the oxidase reaction and consisting of Gram-negative diplococci have been isolated from the genito-urinary tract which subsequent examination has shown were not true gonococci. Organisms of this type are likely to give rise in 1 to 5 per cent. of cases to erroneous diagnosis if reliance is placed on the smear method alone. Numerous tabulated results are given to show that the cultural method is considerably more delicate than the direct smear method, but it is pointed out that a certain number of cases do occur in which the smear method is positive when no gonococci can be isolated in culture.

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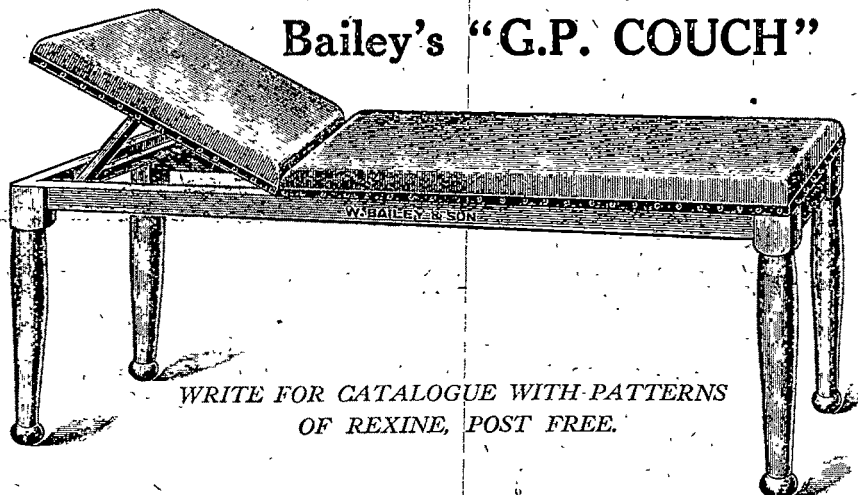
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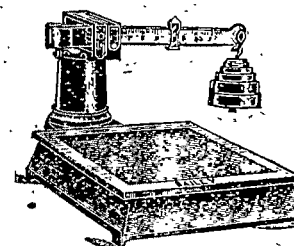
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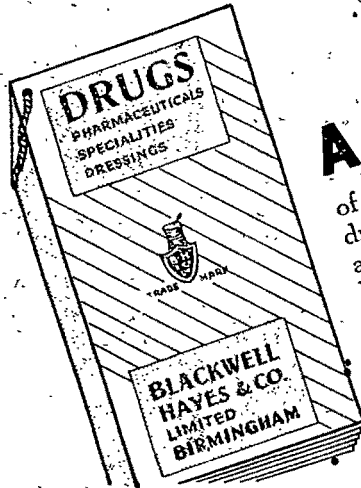
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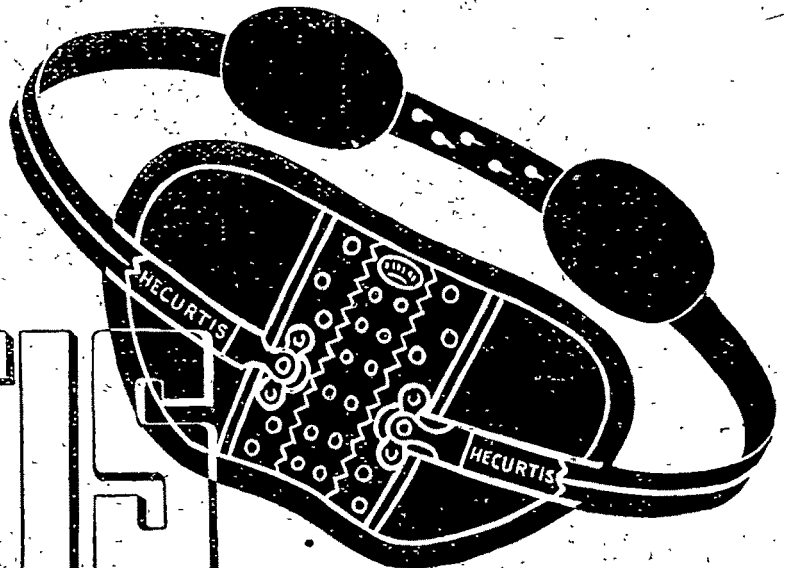


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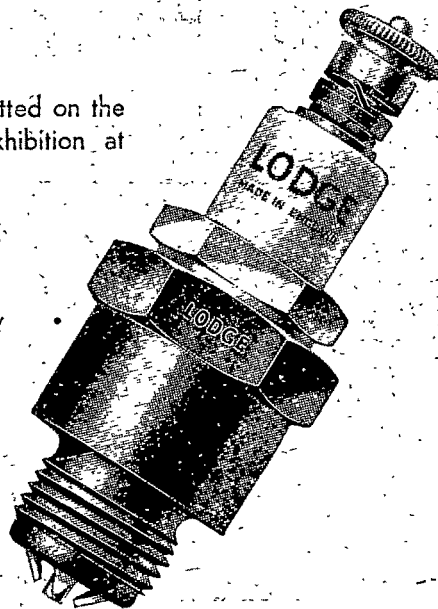
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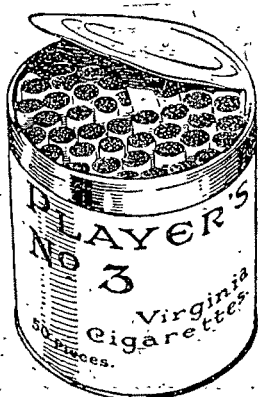
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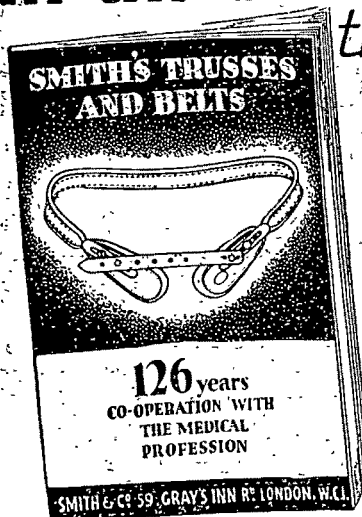
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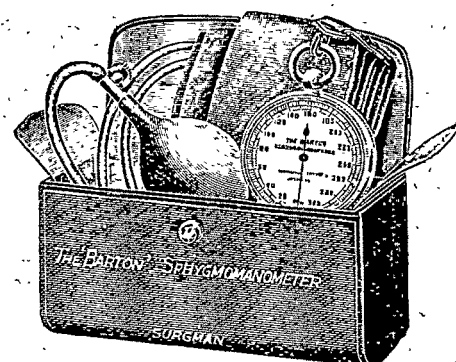
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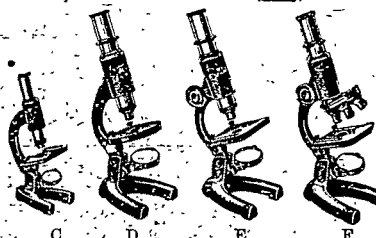
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At this beautifully situated country mansion in Warwickshire (2 hrs. from London on L.M.S.R.), the residential treatment of Alcoholism, Neurasthenia, Insomnia, and Nervous breakdown is carried out on the most modern principles under the supervision of the Res. Med. Supt. Recreation and graduated occupational therapy are available in the extensive secluded grounds. Prospectus from A. E. CARVER, M.D., D.P.M., Resident Medical Superintendent.

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GRÉAT MISSENDEN, BUCKS.

A Beautifully situated Home, 550 feet above sea-level, on Southern Chilterns.
90 acres, Garden, Woods, and Park.

For INSOMNIA, NEURASTHENIA, other FUNCTIONAL
NERVOUS DISORDERS, and CONVALESCENCE.

Fees from 8 guineas.

Telephone: 91 Gt. Missenden.

Apply: C. W. J. BRASHER, M.D.

HEIGHAM HALL, NORWICH

A PRIVATE MENTAL HOME situated in 14 acres of well-wooded grounds. For Ladies and Gentlemen suffering from Nervous or Mental Illness. Voluntary Patients, Temporary Patients, and Patients under Certificates are admitted for Treatment. Fees: from 4 guineas a week upwards, according to requirements. A few vacancies exist for Ladies and Gentlemen at reduced fees on the recommendation of the Patient's own Physician. Apply to Medical Superintendent. Telephone: 80 Norwich.

HOME FOR EPILEPTICS,

MAGHULL (near LIVERPOOL).

Chairman: Brig. Gen. G. Kyffin-Taylor,
C.B.E., V.D., D.L.

FARMING and OPEN AIR OCCUPATION for PATIENTS.

A few vacancies in 1st and 2nd Class Houses.

FEES: 1st Class (men only) from £3 p.w. upwards. 2nd Class (men and women) 32/- p.w.

For further particulars apply:

C. EDGAR GRISEWOOD, Secretary,
20, Exchange Street East, Liverpool.

The MAUDSLEY HOSPITAL

DENMARK HILL, S.E.5.

Telephone: RODNEY 2101.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY received.

NEW OUT-PATIENTS: MEN — Mondays and Thursdays, 2 p.m. WOMEN—Tuesdays and Fridays, 2 p.m. CHILDREN—Mondays and Fridays, 10 a.m.

IN-PATIENTS: (a) 229 beds (both sexes) in wards or separate rooms, including 35 beds in a ward of King's College Hospital, which is in use as a temporary annex of the Maudsley Hospital. (b) 13 private rooms (for ladies) with special sitting rooms, garden, and dietary.

TERMS

(a) £5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.
(b) £6 6s. a week.

Terms include (with rare exceptions) all forms of treatment, for which unusual facilities exist—there being a staff of consultant specialists, and the central laboratory of London County Mental Hospitals being attached to the Hospital. Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

DUNDEE ROYAL MENTAL HOSPITAL, GOWRIE HOUSE.

Established 1820. For the care and treatment of persons of both sexes suffering from nervous and mental disorders, either as voluntary boarders or under certificate. Terms from £2 2s. upwards.

Full particulars from the Lady Superintendent, Gowrie House, 11th, Dundee.

ST. ANDREW'S HOSPITAL FOR MENTAL DISORDERS, NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary patients, who are suffering from incipient mental disorders or who wish to prevent recurrent attacks of mental trouble, temporary patients, and certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms, with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital, from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate, a mile of sea coast forms the boundary. Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 2356 and -2357-Northampton), who can be seen in London by appointment.

HAYDOCK LODGE, NEWTON-LE-WILLOWS, LANCASHIRE.

Tele.: Street, Ashton-in-Makerfield.

Phone: Ashton-in-Makerfield 7311.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES suffering from mental and nervous diseases, either voluntarily, temporarily, or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens in which patients are encouraged to occupy themselves. Every facility for indoor and outdoor recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

COURT HALL, KENTON, near EXETER,

for the treatment of eight Ladies, voluntary, temporary, or certified patients.
Large gardens and own dairy.

CLIFFDEN, TEIGNMOUTH, for early and convalescent cases. A well-appointed house, with spacious balconies and extensive views of the South Devon Coast. Sub-tropical gardens; own dairy in 25 acres. Private road to beach.

Resident Physicians { BERTHA M. MILES, M.D., D.S.
 { ANNE S. MILES, M.R.C.S., L.R.C.P.

Telephones:
Starcross 59
Teignmouth 289

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel. 64117.

For terms, etc., apply to the Medical Superintendent.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON."

Telephone: NORTH 0983.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses. Conveniently situated four miles from Charing Cross. Easy access from all parts. Six acres of ground highly situated, facing Finsbury Park. Private Suites. Voluntary Patients and Temporary Patients received without Certification.

Convalescent Home, KEARSNEY COURT, DOVER. For further particulars, apply to the Medical Superintendent.

CHISWICK HOUSE

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both Sexes.

Now removed to

CHISWICK HOUSE, PINNER, MIDDLESEX

Telephone: PINNER 234

A modern country house, 12 miles from Marble Arch, in beautiful secluded grounds. Fees from 10 guineas per week, inclusive. Cases under certificate and Voluntary Patients received for treatment. Special provision for "Temporary" patients under the new Mental Treatment Act.

Douglas Macaulay, M.D., D.P.M.

BARNWOOD HOUSE, GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L.M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 300 acres. Voluntary Patients of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Patients is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 6207, Barnwood.

HILL END HOSPITAL FOR MENTAL AND NERVOUS DISORDERS (20 miles from London)

Ladies suffering from all forms of MENTAL ILLNESS are received for treatment, on modern lines, as Voluntary, Temporary or Certified Private Patients at the Hill End Hospital. Convalescent or mild cases can be treated in a delightful country mansion, with extensive grounds known as

HIGHFIELD HALL,

situate about a mile away from the Hospital. FEES: TWO TO THREE GUINEAS PER WEEK.

For further particulars apply to the Medical Supt., W. J. T. KIMBER, L.R.C.P., D.P.M., ST. ALBANS, HERTS.

FENSTANTON, CHRISTCHURCH ROAD, STREATHAM HILL, S.W.2.

A Private Home for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See Medical Directory, p. 2268.) Apply, J. H. EARLS, M.D., Resident Physician. Telephone: Tulse Hill 7181.

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Certified, Voluntary, and Temporary Patients received. Large Mansion on outskirts of Bath, with 20 acres of grounds (see Medical Directory, page 2278).

For terms apply S. J. GILFILLAN, O.B.E., M.B., C.M. Edin., Resident Physician.
Telephone No.: Bathaston 8189.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Borders received. Situated 1,200 ft. above sea-level, facing S. 14 acres of grounds. — For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat.: Tel. 130.

Tel. and Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for ladies mentally afflicted. Voluntary Borders received. Station: Brentwood and Shenfield 1 mile. Liver'p' St. 26 min. Apply, Dr. HAYNES.

RUTHIN CASTLE, NORTH WALES

REDUCTION OF FEES

In view of the present economic position, the inclusive fees at Ruthin Castle, formerly from 17 guineas a week, have been reduced to from 15 guineas a week.

The fees include medical attendance; all scientific investigations that may be needed, such as analyses, bacteriological cultures, the ordinary x-ray examinations and electrocardiograph readings; all treatment that may be prescribed, such as special diets, insulin, artificial sunlight, electrical treatment, baths, massage, nursing; medicines or vaccines, board, and lodging.

The only extra charge is that for a complete alimentary x-ray examination, or for x-ray therapy.

All the usual forms of treatment are given at Ruthin Castle. The climate is mild. The annual rainfall is 30.5 inches, that is, less than the average for England. There is central heating throughout. Should the accommodation in the Castle not prove sufficient, comfortable rooms can be obtained near by for those undergoing treatment.

Address—The SECRETARY, Ruthin Castle, North Wales. Telegrams: CASTLE, RUTHIN. Telephone: RUTHIN 66

NORTH OF ENGLAND.

ALMORA HALL, MIDDLETON ST. GEORGE, COUNTY DURHAM.

A NURSING HOME (opened in 1927), for the investigation and treatment of all types of Functional Nervous Disorders and early mental illnesses.

No certified patients accepted or retained. A thorough clinical and pathological examination is followed by treatment, physical and psychotherapeutic, best suited to each individual patient. Descriptive brochure on application to Medical Superintendents, J. W. ASTLEY COOPER and T. C. BARKAS, O.B.E., M.B., B.S. Telegrams—Almora Hall, Middleton St. George. Telephone—3 Middleton-one-Row.

WOODSIDE HOSPITAL

WOODSIDE AVENUE, MUSWELL HILL, LONDON, N.10

President: THE RT. HON. THE EARL OF ATHLONE, K.G., P.C.

Fully equipped with every modern appliance for the diagnosis and treatment of

FUNCTIONAL NERVOUS DISORDERS

Private Rooms, Broad Verandahs, Physiotherapy and Psychotherapy, X-ray and Dental Departments, Laboratories for investigation and research. For terms and particulars apply to the Physician in charge at the Hospital. Phone: Tudor 4211.

BOOTHAM PARK, YORK.

A registered Hospital for Nervous and Mental Diseases.

The Hospital is pleasantly situated in one of the suburbs of York and affords excellent accommodation at very moderate terms. Voluntary, Temporary, and Certified patients are received.

Terms from **Four Guineas** weekly. At present a limited number of suitable cases can be admitted at **Three Guineas** weekly.

For particulars, forms, etc., apply to G. RUTHERFORD JEFFREY, M.D., F.R.C.P.E., F.R.S.E., Medical Superintendent.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON."

FOR THE TREATMENT OF MENTAL DISORDERS.

Telephone:

RODNEY 4731-4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Putting Greens, Bowls, Croquet, Squash Rackets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Callisthenics, and Dancing Classes, X-ray and Actino-therapy, Prolonged Immersion Baths, Operating Theatre, Pathological Laboratory, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. HUBERT JAMES NORMAN, assisted by three Medical Officers, also resident and visiting Consultants.

An illustrated Prospectus, giving fees which are strictly moderate, may be obtained upon application to the Secretary.

The Convalescent Branch is HOVE VILLA, BRIGHTON, and is 200 feet above sea-level.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London."

Telephone: Rodney 4741-4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Certified voluntary and temporary patients are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis Courts. Entertainments, dances, and indoor amusements held throughout the year. Terms from £3 3s. per week.

Illustrated prospectus and further particulars can be obtained from the MEDICAL SUPERINTENDENT.

THE OLD MANOR SALISBURY

Extensive grounds.

Detached Villas.

Chapel.

Garden and dairy produce from own farm.

Terms very moderate.

CONVALESCENT HOME
at BOURNEMOUTH.

Detached Villas standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury.

Telephone 51.

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders, Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham.

Telephone: Springpark 1180-1181.

Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.

Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.

Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure, and farm grounds.

Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.

With a view to early treatment voluntary or uncertified patients are admitted.

Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates, and in certain cases will be prepared to admit patients free of charge.

Every facility for specialized investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this unit is found the X-Ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.

Furthermore, provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms, and Occupational Therapy under competent instruction is encouraged.

In addition to the Resident Medical Staff, Consultants in special branches of medicine and surgery are available whenever required.

The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.

For forms and further particulars apply to the Physician-Superintendent at the Hospital.

TOR-NA-DEE SANATORIUM MURTLE DEESIDE ABERDEENSHIRE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS

Managing Director: DAVID LAWSON, M.D., F.R.S.E.

Southern aspect. Low rainfall. Pure bracing air. Sheltered grounds. Beautiful surroundings. All modern equipment for diagnosis and treatment, including operating theatre. No extra charge for X-Rays, Artificial Pneumothorax, Ultra-Violet Light, or other special treatment.

Day and Night Nursing Staff. All bedrooms have central heating, electric light, hot and cold running water, and wireless (headphones). Comfortable and airy public rooms.

Medical Superintendent: J. M. JOHNSTON, M.B., M.R.C.S., D.P.H. For terms and prospectus apply to the Secretary. Telephone: CULTS 107.

THE COTSWOLD SANATORIUM

First opened in 1898 and rebuilt in 1925. On the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East; elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tubercullins and Ultra-violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Up-to-date main drainage.

Terms 4½ gns. to 7 gns. a week.

Full day and night Nursing Staff.
Med. Supt.: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub. Asst. Phys.: MARGARET A. HARRISON, M.B., B.S.Lond. Pathologist: EDGAR N. DAVEY, M.B., B.Ch. Consult. Laryngologist: CASSIDY DE W. GIBB, F.R.C.S.Edin. Consulting Dental Surg.: GEORGE V. SAUNDERS, L.D.S., R.C.S.Lond. Apply, Secretary, The Cotswold Sanatorium, Cranham, Gloucester. Tel.: 81 and 82 WITCOMBE. Grams: "HOFFMAN, BIRDIEP."

THE CORNISH RIVIERA SANATORIUM

ROSEHILL, PENZANCE

will shortly be opened for the reception of patients suffering from tuberculosis.

The Sanatorium stands in its own grounds of 13 acres of garden, lawn, and woodland, and is well sheltered from cold winds. The climate is particularly suitable for patients seeking mild winter conditions. All forms of treatment available. Non-pulmonary, as well as pulmonary, cases admitted.

MEDICAL SUPERINTENDENT: Francis Chown, M.B.Lond., D.P.H.

Prospectus on application to: THE MATRON, THE CORNISH RIVIERA SANATORIUM, ROSEHILL, PENZANCE.

LINFORD SANATORIUM, RINGWOOD, NEW FOREST, HANTS.

For the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P.
Terms: from Seven Guineas weekly.

NORDRACH-UPON-MENDIP SANATORIUM

FOR THE TREATMENT OF TUBERCULOSIS, was opened in January, 1899, by ROWLAND THURNAM, M.D.

All modern forms of treatment are available. There are X-ray and ultra-violet ray installations. Full day and night nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an altitude of 862 feet above sea-level, surrounded by woods and moorland. All rooms are heated by hot-water pipes and electrically lighted.

GORDON TIPPETT, M.B., M.R.C.S., L.R.C.P., Resident Medical Supt.

For full particulars apply to The Secretary, Nordrach-upon-Mendip, Blagdon, Bristol. Telegrams: Nordrach, Blagdon. Telephone: Blagdon 23.

The MUNDESLEY SANATORIUM

The new central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless head-phones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON,
M.D. (Cantab.), M.R.C.P. (Lond.).
ANDREW MORLAND,
M.D. (Lond.), M.R.C.P.
E. C. WYNNE-EDWARDS,
M.B. (Cantab.).

For all information apply:
**THE SANATORIUM, MUNDESLEY,
NORFOLK.**
Telephone: Mundesley 94 and 95
(2 lines).

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

TERMS FROM 7½ GUINEAS WEEKLY.

Smedley's Great Britain's Greatest Hydro Matlock

Unrivalled suites of Baths—Turkish and Russian Baths, Aix and Vichy Douches, Massage; Plombières Treatment. Electric Installation for Baths and other Medical Purposes. Dowsing Radiant Heat, Infra-red Light, Artificial Sunlight, D'Arsonval High Frequency, Diathermy, Nauhelm Baths, Soapless Foam Baths, etc. "Certified" Milk from own farm. Large Winter Garden. Orchestra. Special provision for Invalids. Night Attendance. Over 60 trained Male and Female Nurses, Masseurs, Attendants, etc.

Terms 13/- to 18/6 per day inclusive board.
Illustrated Prospectus M.J. on request.
Resident Physicians: G. C. R. HARBINSON, M.B.,
B.Ch., B.A.O. (R.U.I.); R. MACLELLAND, M.D., C.M.
'Phone: No. 17. 'Grams: Smedleys, Matlock.

MONTANA HALL, Montana, Switzerland

Built 1929-30.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL, AND WITH A DAY AND NIGHT STAFF OF BRITISH TRAINED NURSING SISTERS.

INCLUSIVE TERMS—from 8½ guineas (sterling) per week.

Med. Supt.: HILARY ROCHE, M.D. (Melb.), M.R.C.P. (Lond.), Tuberc. Dis. Dip. (Wales)

GRAMPIAN SANATORIUM, KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 feet above the sea-level. Sheltered situation in pine wood. Graduated walks. Electric light throughout the building and in shelters. Central heating. Fully equipped X-ray Plant. All modern methods of treatment available, including Pneumothorax, Phrenic evulsion, etc., when necessary. Surgical cases also admitted. Trained nurse on duty all night. Terms 3½ guineas to 6 guineas per week, inclusive. No extras. Med. Supt.: FELIX SAVY, M.D.
For particulars apply to the Matron.

BRIDGE OF ALLAN SPA

"On the Banks of Allan Water"
Mineral Waters with high calcium, iodine and bromine content. Baths and Electrical Treatment by skilled certificated attendants. Tonic air. Covered communication with Allan Water and Spa Hotel.
BRIDGE OF ALLAN, SCOTLAND

A comfortable London Hotel, convenient for Harley Street and Nursing Homes.

THE CLIFTON HOTEL

WELBECK STREET, LONDON, W.1
gives comfort, service, and cuisine equal to larger hotels at less cost. Bedrooms with hot and cold water and telephones. Centrally situated close to Harley Street and Nursing Homes.

'Grams: Clifflinton, London. Tel.: Welbeck 6881

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In the winter garden of Scotland, facing the sun, 600 feet up. Tonic air; beauty in every landscape from sheltered balconies. Dancing, winter garden, swimming bath, tennis, badminton, golf, fishing. Fully licensed. Modern baths installation. Physio-therapeutic, massage, electrical treatment, ultra-violet radiation. Physician in attendance. Write for prospectus.
PEEBLES HYDRO, PEEBLES, SCOTLAND

BOURNEMOUTH HYDRO.

with Vita-glass Sun-lounge and Marine Balcony.
Pyretic and
Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet light.
Every kind of Electricity. Diathermy.
Every kind of Diet. Esseff Inhaler.
High Frequency. Electric Lift.
Prospectus from Secretary. Tele. 341.
Resident: W. JOHNSTON SMYTH, M.D.
Physicians: L. T. ROSE-HUTCHINSON, M.D.

MASTERY OF MIDWIFERY.

Examinations for the Diploma of the Mastery of Midwifery of the Society of Apothecaries of London will be held twice yearly, beginning on the third Mondays in May and November.
For regulations, apply to the Registrar of the Society, Water Lane, E.C.4.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examination for Medical and Dental Students in London and at Provincial Centres in March, June, September, and December. For Regulations, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

LONDON HOMOEOPATHIC HOSPITAL

(Incorporated by Royal Charter)

GREAT ORMOND ST. & QUEEN SQUARE, W.C.1.

Education Facilities for Graduates and Senior Students of Medicine.

WINTER SESSION, 1934-35.

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26th Year.

A Course of Lectures on HOMOEOPATHIC MATERIA MEDICA AND THERAPEUTICS, accompanied with CLINICAL DEMONSTRATIONS, are given by CHARLES E. WHEELER, M.D., B.Sc. (Lond.), Consulting Physician to the London Homoeopathic Hospital, at the Hospital, on

Mondays and Thursdays, October, 1934, to March, 1935, commencing Monday, October 15th, at 5 o'clock. On the first Thursday of the month the hour is 3.30 p.m.

The COMPTON-BURNETT LECTURES

A Course of Ten Lectures on HOMOEOPATHIC PHILOSOPHY AND PRESCRIBING, as illustrated from the writings of the Organon and Modern Developments therefrom, are given by Sir JOHN WEIR, K.C.V.O., M.B., Ch.B. (Glasg.), (Physician-in-Ordinary to H.R.H. the Prince of Wales), Senior Physician to the London Homoeopathic Hospital, are given at the Winter Session only on Fridays, at 5 p.m., October to December—commencing Friday, October 12th.

AN INTRODUCTORY LECTURE TO THE WHOLE EDUCATION COURSE will be delivered at the Hospital on Thursday, October 11th, 1934, at 5 p.m.

By: STUART MCAUSLAND, B.A. (Lond.), M.D., Ch.B. (L'pool), M.R.C.S. (Eng.), L.R.C.P. (Lond).
Subject: "To-day's Need of Homoeopathy."
All Medical Men and Women are invited to attend this Lecture.

TUTORIAL CLASS.

A class for individual study of the Materia Medica by the Repertory and References to Patients are conducted by DOUGLAS M. BORLAND, M.B., Ch.B. (Glasg.), Physician to the London Homoeopathic Hospital, on Fridays, at 6.15 p.m., October to March—commencing October 12th.

CLINICAL TUTORIALS.

On Monday and Friday afternoons, at 2 o'clock, throughout both the Winter and Summer Sessions, the Registrar Tutor to the Hospital, WILLIAM WILSON RORKE, M.B., Ch.B. (Glasg.), who is also Physician for Diseases of the Nervous System at the London Homoeopathic Hospital, conducts an Out-patient Clinic for the purpose of instruction in the application of Homoeopathic principles.

THE SIR HENRY TYLER SCHOLARSHIP COMMITTEE

also offer SCHOLARSHIPS of £20 for Medical Men in the Provinces desirous of taking a Post-Graduate Course at the London Homoeopathic Hospital during the Ten Compton-Burnett Lectures.

Prospectus and further information regarding scholarships may be obtained on application to the Dean of the Education Course, London Homoeopathic Hospital, W.C.1.

ST. PAUL'S HOSPITAL, ENDELL STREET (off Shaftesbury Avenue), W.C.2

POST-GRADUATE COURSE IN UROLOGY

(Free to Registered Medical Practitioners and Students).

SUBJECT.	Lecturer.	On the following dates at 4.30 p.m., 1934.
Some practical points in the diagnosis and treatment of Urological cases in general practice.	Mr. H. P. WINSBURY-WHITE.	October 17th (Wednesday).
Prognosis in relation to treatment of Cancer of the Bladder and Prostate.	Mr. STANFORD CADE.	October 24th (Wednesday).
Some important Prostatic Diseases: Their diagnosis and treatment.	Mr. W. K. IRWIN.	October 31st (Wednesday).
Radiography in Renal Disease.	Mr. R. JOCELYN SWAN.	November 7th (Wednesday).
Genito-Urinary Tuberculosis.	Mr. KENNETH WALKER.	November 14th (Wednesday).
Low Spinal Anaesthesia in Genito-Urinary Surgery.	Mr. J. K. HASLER.	November 21st (Wednesday).
Some interesting Urological cases, with demonstrations of pathological specimens and radiograms of same.	Mr. CLAUDE H. MILLS.	November 28th (Wednesday).

No fee will be charged for attendance at lectures, etc. Registered Medical Practitioners and Students are invited to attend any branch of the work in which they are interested. Tea will be served at 4 p.m.

POST-GRADUATE COURSES

Open only to Members of the Fellowship of Medicine. Annual Subscription £1 1s.

OPHTHALMOLOGY (Royal Westminster Ophthalmic Hospital, October 15th to November 3rd, afternoons); CLINICAL SURGERY (Royal Albert Dock Hospital, all Saturday and Sunday, October 13th and 14th, week-end); GYNAECOLOGY (Chelsea Hospital, October 22nd to November 3rd, all day); CHEST DISEASES (Brompton Hospital, all day Saturday and Sunday, October 20th and 21st, week-end); NEUROLOGY (West End Hospital, October 29th to November 3rd, all day). DEMONSTRATION on GENERAL MEDICINE every Tuesday afternoon, 2.30 p.m., at Medical Society. LECTURES on DIET AND DIETETICS, Wednesdays, 8.30 p.m., October 24th to December 12th, Medical Society.

Apply—

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, London, W.1.

(Langham 4266.)

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

THE CLINICAL RESEARCH ASSOCIATION, LTD.

WATERGATE HOUSE, ADELPHI, W.C.2.

(Close to Charing Cross Station.)

A COMPLETE LABORATORY SERVICE.

The Consulting Rooms and Laboratories of this Association (established in 1894) are available for all Medical Practitioners desiring Laboratory assistance in the investigation and diagnosis of cases under their care. All necessary apparatus and full instructions for collecting pathogenic material, or for the personal attendance of Patients at the Consulting Rooms of the Association, will be forwarded immediately on application.

CARDIOGRAPHIC AND X-RAY EXAMINATIONS, ALSO NURSING HOME ACCOMMODATION ARRANGED.

Telephone: TEMPLE BAR 8993 (3 lines).

D. M. LIVOCK, A.C.A., Secretary.

Telegrams: "TUBERCLE, RAND, LONDON."

DIPLOMA IN OPHTHALMOLOGY DIPLOMA IN RADIOLOGY DIPLOMA IN LARYNGOLOGY AND OTOLGY

Short Intensive Revision Courses, Oral and Postal, in preparation for these Diplomas.

For full details write SECRETARY, Medical Correspondence College, 19, Welbeck Street, W.1.

STAMMERING SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1880. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE's house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times."
"Thoroughly physiological principles."—"Lancet."
"The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/9 of Miss BEHNKE, 39, Earl's Court Sq., S.W.5.

LIVERPOOL SCHOOL OF

TROPICAL MEDICINE

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st, 1934, and January 3rd 1935, and for the Diploma in Tropical Hygiene on January 10th and April 25th, 1935. (Candidates for the D.T.M. must possess the D.T.M. of this University.)

For particulars apply to the Laboratory Secretary, School of Tropical Medicine, Pembroke Place, Liverpool, 3.

LONDON HOSPITAL MEDICAL COLLEGE

(University of London).

SCHORSTEIN MEMORIAL LECTURE.

The above Lecture will be delivered by Sir FARQUHAR BUZZARD, Bt., K.C.V.O., M.D., F.R.C.P., Regius Professor of Medicine in the University of Oxford, on Thursday, October 18th, at 4.30 p.m. in the Anatomical Theatre. Subject: "Hughlings Jackson and his Influence on Neurology."

Members of the Profession are cordially invited to attend.

Professor WILLIAM WRIGHT.

M.B., D.Sc., F.R.C.S., Dean.

DUNNOW HALL,

Newton-in-Bowland, Yorkshire.

A co-educational school for children who are physically or emotionally delicate, or who present special problems in development or conduct.

Modern methods under medical supervision. Own Farm.

Prospectus from the Medical Principal.

F.R.C.S. (Edin.).

POSTAL and ORAL COURSES.

Oral Prep. Course for next Exam. will commence shortly. Course includes Demonstrations of Museum (Surg., Path.) Specimens and Anatomical Dissections. Postal Tuition or "Reading Courses" at any time. Further particulars, H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinburgh.

DIPLOMA IN PUBLIC HEALTH The Royal Institute of Public Health

The Course of Instruction can be commenced at any time. Provision is made for students who can give either whole or part time to the work.

A prospectus and further particulars can be obtained from the Secretary.

Telephone: Terminus 4788-6206.
25, Queen Square (and Guilford Street), London, W.C.1.

SCHOOLS for BOYS and GIRLS TUTORS FOR ALL EXAMS.

Messrs. J. & J. PATON having an up-to-date Knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred, and rough idea of fees should be given.
J. & J. PATON, Educational Agents, 145, Cannon St., London, E.C.4. Tel.: Mansion House 5053.

UNIVERSITY OF LONDON

A COURSE OF THREE LECTURES on "Physiological Equilibrium" will be given by Prof. L. J. HENDERSON (Professor of Biological Chemistry in Harvard University) at UNIVERSITY COLLEGE, LONDON (Gower Street, W.C.1) on OCTOBER 16th, 17th, and 18th, at 5 p.m. At the First Lecture the Chair will be taken by Prof. A. V. HILL, O.B.E., M.A., Sc.D., F.R.S. (Professor of Physiology in the University).

Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

M.D. THESIS

All Universities.

Skilled coaching, guidance, and advice, by specialist tutors.

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Special courses, postal, oral, and clinical, for all higher medical examinations, M.R.C.P. London, Edinburgh, F.R.F.P.S. Glasgow. Many successes.

Write for free booklet, "Guide to the M.D. London," to the Secretary, Medical Correspondence College, 19, Welbeck Street, London, W.1.

EPSOM COLLEGE.

COUNCIL EXHIBITIONS.

An EXAMINATION will take place in due course for the admission of ONE or possibly TWO BOYS as COUNCIL EXHIBITIONERS. The fee payable is £75 a year, instead of the usual fee of £155. Candidates must be the sons of such duly qualified medical men as shall, in the opinion of the Council, be among the less fortunate members of their profession. They must be over 12 and under 14 years of age on January 1st, 1935. Application forms are obtainable on request, and must reach me at the College Office, 49, Bedford Square, W.C.1, duly completed, by the morning of January 1st, 1935.

W. L. GIFFARD (Major),
49, Bedford Square, Secretary.
W.C.1. October, 1934.

THE GROCERS' COMPANY.

MEDICAL RESEARCH SCHOLARSHIPS.

With the object of encouragement of Original Medical Research, the Grocers' Company offer three Scholarships, each of £300 a year, with an allowance to meet the cost of apparatus and other expenses in connection with the work, tenable for one year, but renewable for a second or third year, subject to the conditions of the scheme under which they are established. The next election will take place in May, 1935.

Applications must be sent in before the end of April to the Clerk, Grocers' Hall, London, E.C.2, from whom a form of application and further information may be obtained.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

Applications are invited from Medical Men for the LEVERHULME RESEARCH FELLOWSHIP (£600 per annum), tenable at the Sir Alfred Lewis Jones Research Laboratory, Sierra Leone, West Africa.

Applications should be addressed to the Secretary, School of Tropical Medicine, Pembroke Place, Liverpool, 5.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

(UNIVERSITY OF LONDON)
Incorporating the Ross Institute.

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE (Eng.)

Dates of the Courses, 1934-5.

(Each part can be taken independently, but not concurrently.)

SECTION A (CLINICAL AND LABORATORY INSTRUCTION).

October 1st—December 21st, 1934.

January 7th—March 30th, 1935.

April 8th—June 28th, 1935.

SECTION B (TROPICAL HYGIENE).

January 21st—March 22nd, 1935.

April 23rd—June 21st, 1935.

FEES (inclusive):

Section A, £25; Section B, £15.

DIPLOMA IN PSYCHOLOGY (INDUSTRIAL)

Special courses of study by arrangement.

DIPLOMA IN PUBLIC HEALTH

Course of Study (whole-time, nine months) commencing in October. Inclusive fee, 84 gns.

DIPLOMA IN BACTERIOLOGY

Course of Study (whole-time, one academic year) commencing in October. Inclusive fee, £47/15s.

EPIDEMIOLOGY AND VITAL STATISTICS

Special three-monthly advanced courses. Inclusive fee, 7 guineas.

For Prospectuses and Synopses of Lectures, etc., apply to the SECRETARY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Keppel Street (Gower Street), London, W.C.1. (Museum 3041.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND

ANNUAL MEETING OF FELLOWS AND MEMBERS.

Notice is hereby given that it is proposed to hold a MEETING OF FELLOWS AND MEMBERS at the College in Lincoln's Inn Fields on THURSDAY, NOVEMBER 15th, 1934, at 3 o'clock p.m., and that a Report from the Council will be laid before the Meeting.

Fellows and Members can obtain copies of the Report on application to the Secretary, and can, if they so desire, have their names placed on the List of those to whom the Report is sent annually.

Motions to be brought forward at the Meeting must be signed by the mover, or by the mover and other Fellows and Members, and must be received by the Secretary not later than November 5th.

A copy of the Agenda will be issued on or after November 9th to any Fellow or Member who may apply for one.

KENNEDY CASSELS,
October 13th, 1934. Secretary.

M.R.C.P. COURSE.

A COURSE in preparation for the January, 1935, examination for Membership of the Royal College of Physicians of London will be held, commencing on Monday, October 29th, 1934. The course will extend over ten weeks, and will comprise daily instruction including special lectures and demonstrations.

The course will be conducted by the Honorary Staff and the Registrars of the Hospital. Fee: Twenty Guineas.

Further particulars may be obtained from the DEAN, Charing Cross Hospital Medical School, London, W.C.2, to whom applications should be submitted.

GUY'S HOSPITAL, S. E. 1.

Applications are invited for the post of DEMONSTRATOR OF ANAESTHETICS. Two sessions per week, honorarium £50 per annum. Applications should be made, indicating experience, to the Treasurer, Superintendent's Office, Guy's Hospital, S.E.1, not later than Saturday, October 20th.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.)
POSTAL OR ORAL PREPARATION FOR ALL MEDICAL EXAMINATIONS.

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M.B., B.S. (Lond.), Final 1918-33 (Completed Exam.) **225**

F.R.C.S. (Eng.), Primary 1919-33 **152**

M.R.C.P. (Lond.), 1919-33 **232**

D.P.H. (Various) 1906-33 (Completed Exam.) **325**

F.R.C.S. (Edin.), 1918-33 **57**

M.R.C.S., L.R.C.P. Final 1919-33 (Completed Exam.) **489**

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Preparation for the above; also for Medical Preliminary, and all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for M.R.C.P. (Edin.), D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Many successes.

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M.R.C.P., M.D., Primary and Final F.R.C.S., F.R.C.S. (Edin.); also Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. Particulars of all Medical Examinations, Postal Courses, and Oral Classes. Suggestions for the Higher Medical Examinations. Suggestions for the Higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Courses. Openings for Women. Hints for writing theses.

Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.2.

The Council invite applications from qualified Medical Practitioners for appointment to the office of ASSISTANT CONSERVATOR of the Museum.

The hours of attendance of the Assistant Conservator will be from 10 to 5 o'clock, and particulars of the office can be obtained on application to the Secretary. The salary offered is from £400 to £500 per annum, according to qualifications and experience.

Candidates should transmit to the Secretary on or before Thursday, November 8th, their applications, accompanied by a statement of their qualifications and the names of two persons to whom reference may be made.

KENNEDY CASSELS, Secretary.

UNIVERSITY OF CAPE TOWN. JUNIOR ASSISTANT IN PATHOLOGY.

Applications are invited for the post of Junior Assistant in the Department of Pathology. Candidates must have a degree or other qualification admitting to registration as Medical Practitioner in the Union of South Africa. The post is vacant from March 1st, 1935.

The appointment is for two years in the first instance at a salary of £375 per annum for the first year and £425 per annum for the second year. If, at the end of two years the Junior Assistant is appointed to the post of Assistant on the permanent staff the salary will be £500 per annum, rising by annual increments of £50 to £650 per annum.

Applications, in duplicate, must reach the Secretary, Office of the High Commissioner for the Union of South Africa, Trafalgar Square, London (from whom forms of application may be obtained) not later than November 7th.

ROYAL BERKSHIRE HOSPITAL, READING.

The following vacancies (male) will occur on or about November 1st.
 Appointments are for six months in the first instance and all candidates must be fully qualified and registered.

Remuneration at £125 per annum, with board, residence, and laundry.

ONE HOUSE PHYSICIAN.

ONE HOUSE SURGEON for Special Departments (Ear, Nose, and Throat, Ophthalmic).

ONE CASUALTY OFFICER, with X-ray duties (for three months with three subsequent months as Resident Anaesthetist).

Application, with copies of testimonials, to be sent to the undersigned on or before October 17th.

F. A. LYON, Secretary.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, VENTNOR, ISLE OF WIGHT.

JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER (Male), unmarried, required for six months, commencing December 1st. Salary £300 per annum, with board, residence, and laundry allowance. Candidates must be fully qualified in medicine and surgery. Previous experience in tuberculosis also bacteriological work desirable.

Applications, in candidates' own handwriting, stating age and qualifications (with one copy of three recent testimonials), to be sent to the Medical Superintendent, Royal National Hospital for Consumption, Ventnor, Isle of Wight, not later than Saturday, November 3rd.

CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL (220 Surgical and Medical Beds.)

RESIDENT SURGICAL OFFICER.

Applications are invited from fully qualified men for the above post. Candidates must have held previous resident appointments, preferably with Special Surgical experience.

The appointment is for twelve months. Salary at the rate of £500 per annum, with board, apartments, and laundry.

Applications, stating age, with copies of three recent testimonials, should be sent to the undersigned on or before Thursday, October 25th.

G. SUNNUCK, Supt. & Secretary.
 Oct. 8th, 1934.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.

APPOINTMENT OF HOUSE SURGEON.

Applications are invited from unmarried Medical Men for the appointment of House Surgeon, vacant on November 1st next. The salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.

Applications, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on October 26th next.

INVERNESS DISTRICT MENTAL HOSPITAL.

Wanted, SENIOR ASSISTANT MEDICAL OFFICER (Male, single). Salary, £400 per annum, with board, lodging, etc. Applicants must have had previous mental hospital experience, and be keen on research. Laboratory facilities are available. The appointment is subject to the Asylums Officer, Superannuation Act, 1909. Applications, with copies of recent testimonials, to ROBERT GILBERT, Esq., Clerk to the Inverness District Asylum Joint Committee, Church Street, Inverness.

KING EDWARD MEMORIAL HOSPITAL, EALING. (130 Beds.)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (Male), vacant on November 1st. Six months' appointment. Salary £150 per annum, with usual residential allowances. Applications, stating age, experience, and qualifications, together with copies of two recent testimonials, to be sent to the undersigned as soon as possible.

R. A. MICKELWRIGHT, Secretary-Superintendent.

CHESHIRE JOINT SANATORIUM, MARKET DRAYTON.

THIRD ASSISTANT MEDICAL OFFICER required. The appointment will be for a period of one year only. Salary £250 per annum, with the usual residential allowances. Please apply to the Medical Superintendent for application forms.

BRISTOL GENERAL HOSPITAL.

A meeting of the Election Committee will be held at the Hospital on Wednesday, October 24th next, at 2.30 p.m. to elect an HONORARY PHYSICIAN.

Application for the appointment will be made by Dr. J. A. BIRRELL, Honorary Assistant Physician.

Also, to elect an HONORARY ASSISTANT PHYSICIAN. By Section VII, S.S.I., of the Rules of the Hospital: No person shall be eligible to the office of Assistant Physician unless he possess a registered medical qualification and undertakes to practice solely as a Physician.

Candidates are requested to send their application, with copies of testimonials and proof of qualification, to the undersigned on or before Monday, October 22nd next, from whom further particulars may be obtained. Every candidate is also required to forward a copy of his application and testimonials to each member of the Election Committee.

By Order of the Committee,
 THOMAS W. GREGG, Secretary.

ROCHDALE INFIRMARY AND DISPENSARY. (110 Beds.)

The Board of Management invites applications from gentlemen for the appointment of JUNIOR HOUSE SURGEON.

The salary attached to the appointment is at the rate of £200 p.a., including board, residence, and laundry.

Applications, stating age, nationality, etc., together with copies of three recent testimonials, to be sent to the Secretary, endorsed "House Surgeon." Conditions of the appointment may be had on application to the Secretary.

Infirmary Office, W. WYNNE, Secretary.
 Rochdale, Lancs.

SOUTHEND-ON-SEA GENERAL HOSPITAL. (235 Beds—Six Residents.) (Specialist Staff—18 Members.)

Applications are invited for the post of HOUSE PHYSICIAN. The appointment is for six months, from November 1st. Salary at the rate of £100 per annum, with board, residence, and laundry.

Candidates must be registered (male) practitioners. Application forms may be obtained from the undersigned and must be returned not later than October 15th. The appointing Committee meets on October 26th.

C. G. PEARSON,
 P. H. CONSTABLE,
 Joint Secretaries.

WREXHAM AND EAST DENBIGHSHIRE WAR MEMORIAL HOSPITAL. (109 Beds.)

Applications are invited by the Elective Committee of the above Hospital for the post of HONORARY OPHTHALMIC SURGEON.

Applications, stating age and qualifications, together with copies of not more than three recent testimonials, must be delivered to the undersigned on or before October 27th.

By Order,

LESLIE SPENCER, Secretary.

EXTRACT RULE 70: "Personal canvassing of the Governors, Board or the Elective Committee, or any member thereof, by any candidate for any office to be held in connection with the Institution, shall disqualify the candidate."
 October 3rd, 1934.

ISLE OF WIGHT COUNTY MENTAL HOSPITAL, NEWPORT, I.W.

CLINICAL ASSISTANT (Male, unmarried), required at once. Resident post, tenable for six months, with full board, etc., and reasonable travelling expenses, and honorarium of 30 gns. Light duties, ample time for post-graduate work and study of the application of the Mental Treatment Act (including Psychiatric Clinics), suitable for freshly qualified, keen man.

Apply, stating age, qualifications, and when free, to the Medical Superintendent, Whitcroft, I.W. Selected applicants will be then required to supply references.

THE ROYAL PORTSMOUTH HOSPITAL, PORTSMOUTH. (Five Resident Medical Officers.)

CASUALTY OFFICER (Male, qualified) required to commence on November 1st. Salary at the rate of £130 per annum, with board, etc. Six months' appointment. Eligible on completion of term, for appointment to other resident posts. Application, stating age, nationality, etc., and copies of three recent testimonials, to be sent to the undersigned not later than October 20th, from whom all particulars can be obtained.

B. WAGSTAFF, Secretary.

ST. MARY'S HOSPITAL, W.2. CASUALTY HOUSE SURGEON.

Applications are invited from duly qualified candidates for the post of Casualty House Surgeon. Candidates must have been House Surgeons for a full period of office to this Hospital or to some other general hospital approved by the Board.

The salary is £100 per annum, with board and residence, and the appointment is for six months.

Applications, with copies of testimonials, not exceeding three in number, should reach the undersigned (from whom particulars of the office may be obtained) on or before Saturday, October 26th.

The successful candidate will be expected to take up the duties on November 1st.
 W. PARKES, House Governor.

HOUSE OF RECOVERY AND FEVER HOSPITAL, Cork Street, DUBLIN.

Applications are invited from duly qualified registered Medical Practitioners for the post of HOUSE PHYSICIAN at the above Hospital. Salary £100 per annum, together with board, residence, and laundry.

Preference will be given to applicants who have held the posts of House Surgeon or House Physician in a general hospital.

Applications, with copies of three recent testimonials, to be sent to the Medical Superintendent not later than October 18th. Selected candidates will be expected to attend for interview.

ROYAL UNITED HOSPITAL, BATH.

OUT-PATIENT AND CASUALTY OFFICER required immediately.

The appointment offers opportunity of experience in Medicine and Surgery.

Salary £150 per annum, with board, residence, and laundry.

Appointment for six months, and candidate must be male, unmarried, and of British nationality.

Applications, with copies of three testimonials to be addressed to the undersigned at once.

J. LAWRENCE MEARS, Secretary-Supt.
 October 8th, 1934.

WARNEFORD GENERAL HOSPITAL, LEAMINGTON SPA. (156 Beds.)

Required at once, HOUSE SURGEON to Casualty and Special Depts. (combined post). Special Depts. include: Maternity, Ear, Nose, and Throat, and V.D. Six months' appointment. Salary £150 per annum, with board and laundry.

Applications from qualified registered Medical Practitioners (single men only) should be sent together with three recent testimonials, to the undersigned by Wednesday, October 17th.

EDWARD L. WIRGMAN,
 House Governor & Secretary.

WESTERN INFIRMARY OF GLASGOW. (INCORPORATED.)

The Managers of the Western Infirmary invite applications for a FULL-TIME ASSISTANT RADIOLOGIST.

The salary is £400 per annum, and candidates are requested to lodge with the Subscriber, on or before October 17th, fifteen applications, with copies of at least two testimonials with each application. Canvassing not permitted.

J. MATHESON-JOHNSTON, C.A., Secretary & Treasurer.

87, Union St., Glasgow. September 28th, 1934.

KETTERING AND DISTRICT GENERAL HOSPITAL. (102 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (Male). Salary £200 per annum and fees.

Candidates must be fully qualified, and registered. Knowledge of Anaesthetics desirable.

Applications, stating age, nationality, and qualifications, together with copies of three recent testimonials, to be sent to the undersigned not later than 17th instant.

(Signed) G. W. JACKSON, Secretary-Superintendent.

CHORLEY AND DISTRICT HOSPITAL, CHORLEY, LANCs.

HOUSE SURGEON (Registered) required. Salary £150 per annum, with board, residence, and laundry. Appointment must be held for at least six months. Duties include those of Casualty Officer. Hospital has 66 beds, and has been open one year.

Applications, stating age and accompanied by three recent testimonials, should be sent to the Hon. Secretary to arrive not later than October 24th.

LONDON COUNTY COUNCIL.

Applications invited from Medical Practitioners for appointment to the undermentioned positions. Duties are assigned by Medical Superintendents and include, if necessary, assistance at other establishments under Council's control. Candidates must be medical practitioners of at least one year's standing, and have held a resident appointment in a general hospital for at least six months. Married quarters are not available.

1. ST. PANCRAS HOSPITAL, Pancras Road, N.W.1. — *SENIOR ASSISTANT MEDICAL OFFICER (Grade II). Special surgical experience essential. No accommodation for a woman.
2. CONSTANCE ROAD INSTITUTION, East Dulwich, S.E.22. — *SENIOR ASSISTANT MEDICAL OFFICER (Grade II). Psychiatric experience essential. No accommodation for a woman.
3. LAMBETH HOSPITAL, Brook St., S.E.11. — ASSISTANT MEDICAL OFFICER (Grade I). Surgical experience desirable. No accommodation for a woman.

4. ST. MARY ISLINGTON HOSPITAL, Highgate Hill, N.19. — ASSISTANT MEDICAL OFFICER (Grade I). Midwifery experience desirable. No accommodation for a woman.

5. ST. OLAVE'S HOSPITAL, Lower Road, Rotherhithe, S.E.16. — ASSISTANT MEDICAL OFFICER (Grade I).

6. ST. LEONARD'S HOSPITAL, Hoxton St., Shoreditch, N.1. — ASSISTANT MEDICAL OFFICER (Grade I). Experience in midwifery and gynaecology desirable.

7. ST. LUKE'S HOSPITAL, Sydney Street, Chelsea, S.W.3. — ASSISTANT MEDICAL OFFICER (Grade I). Duties mainly medical. No accommodation for a woman.

8. MILE END HOSPITAL, Bancroft Road, Mile End, E.1. — ASSISTANT MEDICAL OFFICER (Grade I). Midwifery experience desirable.

9. ST. GEORGE-IN-THE-EAST HOSPITAL, Raine Street, Wapping, E.1. — ASSISTANT MEDICAL OFFICER (Grade I). Duties mainly medical. No accommodation for a woman.

*Salary £600 by £25 to £600 a year, together with board, lodging, and washing.
†Salary £350 by £25 to £425 a year, together with board, lodging, and washing.

Application forms obtainable (stamped addressed foolscap envelope necessary) from Medical Officer of Health (Staff Division 3a), County Hall, S.E.1, returnable by October 24th. Candidates should specify the position or positions for which they desire to apply. Canvassing disqualifies. Further enquiries should be addressed to Medical Superintendent, at the hospitals.

LURGAN UNION (CO. ARMAGH, N.I.).**RESIDENT MEDICAL OFFICER WANTED.**
(Male or Female.)

The Board of Guardians will at their meeting to be held on Thursday, October 18th, consider applications from duly qualified persons for the position of RESIDENT MEDICAL OFFICER of the Infirmary for one year at a salary of £100 per annum, with furnished apartments, laundry, rations, and attendance. If the person appointed remains for the full year a bonus of £20 will be paid.

The appointment is subject to renewal at the end of that period.

Applications for the post, accompanied by certificate of registration and copies of testimonials, will be received by the undersigned up to 10 a.m. on the 18th instant.

The personal attendance of candidates on date of election desired.

By Order, J. CALVERT,
Clerk's Office, The Union, Lurgan, Clerk of Union.
(Co. Armagh, N.I.) October 5th, 1934.

CITY OF BIRMINGHAM.**SELBY OAK HOSPITAL. (520 Beds.)****CASUALTY OFFICER (Male).**

Applications are invited from fully qualified Medical Practitioners for whole-time appointment as Casualty Officer (male) at the Selby Oak Hospital, Birmingham. The appointment will be for a period of six months in the first instance, but may be extended at the end of that time for a further period of not exceeding six months.

Salary at the rate of £200 per annum, and full residential emoluments.

The officer appointed will be required to refund to the Council all fees, allowances, and emoluments (other than the foregoing) received by him.

Further particulars may be obtained from the Medical Superintendent at Selby Oak Hospital, to whom applications, stating age, experience, and qualifications, with copies of recent testimonials, should be forwarded not later than Wednesday, October 31st.

F. H. C. WILTSHIRE,
The Council House, Birmingham, Town Clerk.
October, 1934.

LONDON COUNTY COUNCIL.

Applications invited from Medical Practitioners for appointment to the undermentioned positions. Duties are assigned by Medical Superintendents and include, if necessary, assistance at other establishments under Council's control. Candidates for positions as Assistant Medical Officer must be medical practitioners of at least one year's standing. Experience in a general hospital also desirable. Married quarters are not available.

1. INFECTIOUS HOSPITALS SERVICE.—(a) ASSISTANT MEDICAL OFFICERS (Grade I) required. (b) NORTH-EASTERN HOSPITAL, St. Ann's Road, Tottenham, N.18.—ASSISTANT MEDICAL OFFICER (Grade II). (c) NORTH-WESTERN HOSPITAL, Lawn Road, Hampstead, N.W.3.—ASSISTANT MEDICAL OFFICER (Grade II).

2. PRINCESS MARY'S HOSPITAL FOR CHILDREN, Cliftonville, Margate, Kent.—ASSISTANT MEDICAL OFFICER (Grade I). Experience in surgical tuberculosis and the administration of anaesthetics essential. No accommodation for a woman.

3. GROVE PARK HOSPITAL, Lee, S.E.12.—ASSISTANT MEDICAL OFFICER (Grade I). Experience in treatment of pulmonary tuberculosis, including artificial pneumothorax methods and the administration of anaesthetics is essential. No accommodation for a woman.

4. COLINDALE HOSPITAL, Hendon, N.W.9.—ASSISTANT MEDICAL OFFICER (Grade II). Experience in pulmonary tuberculosis desirable. No accommodation for a woman.

5. PINWOOD SANATORIUM, Wokingham, Berks.—ASSISTANT MEDICAL OFFICER (Grade II) (woman).

6. KING GEORGE V SANATORIUM, Godalming, Surrey.—ASSISTANT MEDICAL OFFICER (Grade II).

*Salary £350 by £25 to £425 a year, together with board, lodging, and washing.

†Salary £250 a year, together with board, lodging, and washing. Appointment for one year in first instance, but renewable for second year under certain conditions.

7. QUEEN MARY'S HOSPITAL FOR CHILDREN, Carshalton, Surrey.—HOUSE PHYSICIAN. Salary £120 a year, together with board, lodging, and washing. Appointment for six months in the first instance.

Application forms obtainable (stamped addressed foolscap envelope necessary) from Medical Officer of Health (Staff Division 3a (I)), County Hall, S.E.1; returnable by October 19th. Candidates should specify the position or positions for which they desire to apply. Canvassing disqualifies. Further enquiries should be addressed to Medical Superintendents at the hospitals.

COUNTY BOROUGH OF SOUTHAMPTON.**EAR, NOSE, AND THROAT SURGEON**
(PART-TIME).

The Corporation invite applications from practitioners having special experience of diseases of the Ear, Nose, and Throat for the part-time appointment of Ear, Nose, and Throat Surgeon.

The gentleman appointed will work under the administrative control of the Medical Officer of Health, and will be required to conduct two clinics and one operating session weekly, and to act as Consultant and to carry out operations when required for cases within his specialty occurring in the Municipal Hospitals and Institutions.

The salary will be £300 per annum inclusive, and the gentleman appointed will hold the office during the pleasure of the Council.

Form of application and further particulars may be obtained from the Medical Officer of Health, Civic Centre, Southampton, and must be returned to the Town Clerk, Civic Centre, Southampton, endorsed "Ear, Nose, and Throat Surgeon," not later than October 30th.

Civic Centre, R. RONALD H. MEGGESON,
Southampton, Town Clerk.
October 2nd, 1934.

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL.

The Committee of Management invite applications for the appointment of HONORARY RADIOLOGIST to the Hospital. Applications, stating age, qualifications, and experience, with not more than three recent testimonials, should be sent before Wednesday, October 17th, to the undersigned.

30, High Street, P. C. RAFFETY,
High Wycombe, Hon. Secretary.
Bucks.

THE ST. HELENS HOSPITAL.

Early applications are invited for the position of JUNIOR HOUSE SURGEON (Male) to this Hospital at a salary of £150 per annum, plus board, residence, and laundry.

Applications to be sent to the Secretary, accompanied by three recent testimonials.

THE METROPOLITAN BOROUGH OF HOLBORN.**APPOINTMENT OF MEDICAL OFFICER OF HEALTH.**

The Holborn Borough Council are prepared to receive applications for the appointment of Medical Officer of Health to include the offices of Chief Executive Tuberculosis Medical Officer and Chief Executive Medical Officer under the Maternity and Child Welfare Acts and Orders. The commencing inclusive salary will be at the rate of £1,000 per annum. Preference will be given to candidates whose age does not exceed 45 years. The person appointed will be required to devote the whole of his time to the duties of the office.

Candidates must possess the qualifications prescribed by the Public Health (London) Act, 1891, and the Sanitary Officers Order, 1926. The appointment will be subject to the approval of the Ministry of Health, and to the successful candidate satisfactorily passing an examination as to physical fitness and general health before entering on his duties.

The candidate appointed will not be required to reside in the Borough, subject to his place of residence being approved by the Minister of Health and the Council.

Applications must be made on printed forms to be obtained from the undersigned on receipt of a stamped addressed envelope, and should be accompanied by not more than three testimonials of recent date. Applications must be delivered not later than Saturday, November 3rd. Canvassing, either directly or indirectly, is prohibited and will disqualify.

Town Hall, L. WALFORD,
197, High Holborn, W.C.1. Town Clerk.

COUNTY BOROUGH OF BURNLEY.**MUNICIPAL GENERAL HOSPITAL.****APPOINTMENT OF RESIDENT SURGICAL OFFICER.**

Applications are invited for the position of Male Resident Surgical Officer of the Municipal General Hospital (280 Beds). Applicants must be Fellows of a Royal College of Surgeons or Masters of Surgery.

Salary at the rate of £600 per annum, rising, subject to satisfactory service, by £25 per annum to £700 per annum, and residential emoluments, valued for purposes of superannuation at £150 per annum.

The appointment is subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination by the Council's Medical Officer.

Forms of application and further particulars may be obtained from the Medical Officer of Health, Public Health Department, St. James' Street, Burnley, to whom applications should be returned duly completed and accompanied by copies of three recent testimonials, not later than October 31st.

CANVASSING, EITHER DIRECTLY OR INDIRECTLY WILL BE A DISQUALIFICATION.

Town Hall, COLIN CAMPBELL,
Burnley, Town Clerk.
October 5th, 1934.

COUNTY BOROUGH OF BURNLEY.**MUNICIPAL GENERAL HOSPITAL.****JUNIOR RESIDENT MEDICAL OFFICER.**

Applications are invited from fully qualified Medical Practitioners for the position of Junior Resident Medical Officer at the Municipal Hospital, Burnley. The appointment will be for a period of twelve months.

Salary at the rate of £150 per annum and full residential emoluments. The officer appointed will be required to refund to the Council all fees, allowances, and emoluments received (other than the foregoing).

Further particulars and application form may be obtained from the Medical Officer of Health, St. James' Street, Burnley, to whom applications, together with three recent testimonials, should be forwarded not later than October 24th.

CANVASSING, EITHER DIRECTLY OR INDIRECTLY, WILL BE A DISQUALIFICATION.

Town Hall, COLIN CAMPBELL,
Burnley, Town Clerk.

COVENTRY & WARWICKSHIRE HOSPITAL.

Main Hospital—307 Beds.
Convalescent Hospital—40 Beds.
Seven Resident Medical Officers.

RESIDENT HOUSE SURGEON (Male) wanted. Salary £125 per annum, with board, laundry, and attendance.

Candidates must be duly qualified and registered.

Applications, stating age and enclosing copies of recent testimonials, should be sent to the undersigned immediately.

(Miss) R. HOOPER, Secretary.

MINISTRY OF HEALTH.

APPOINTMENT OF DEPUTY REGIONAL MEDICAL OFFICERS.

The Minister of Health invites applications from registered Medical Practitioners (men and women) for appointment as Deputy Regional Medical Officer on the staff of the Ministry in various part of England for the discharge of combined clinical and administrative duties in connection with the National Health Insurance Medical Service.

The normal scale of salary is £800 per annum, rising by annual increments of £30 to a maximum of £1,100. These rates are at present subject to temporary abatement, and the current scale of salary rises from a minimum of £770 per annum to a maximum of £1,045 per annum.

Successful candidates under the age of 50 years will be appointed to this scale and will be established Civil Servants with the usual conditions as to pension, etc.

Successful candidates of the age of 50 years and upwards (at the time of appointment) will be remunerated on the above scale and will receive unestablished non-pensionable appointments. In special circumstances, where a candidate in this category has special qualifications and experience, the commencing salary may be advanced to a point in the scale at present in operation not exceeding £950 per annum, inclusive.

Above the grade of Deputy Regional Medical Officer there are at present thirty-one posts of Regional Medical Officer rising to a normal maximum of £1,400 per annum inclusive, and five posts of Divisional Medical Officer rising to a normal maximum of £1,600 a year inclusive. These rates are also subject to a temporary abatement, the current maxima being £1,330 and £1,520, and the above numbers are subject to revision from time to time as the exigencies of the Service may determine. When vacancies are to be filled among the Regional Medical Officers, preference will be given to those who have served as Deputy Regional Medical Officers.

Candidates must be Medical Practitioners of not less than ten years' standing and not exceeding the age of 55 years, with a wide experience of general practice, especially amongst the industrial population.

Deputy Regional Medical Officers are required to devote their whole time to the Public Service and to perform such duties as may be assigned to them by the Minister from time to time. These include acting as deputy to the Regional Medical Officer in the work carried out by the latter:

- (a) as Medical Referee in cases of insured persons referred for a second medical opinion on questions of incapacity for work, or of restoration of working capacity;
- (b) in assisting in the administration of the Insurance Medical Service.

Deputy Regional Medical Officers must be prepared to reside in the area from time to time assigned to them.

Canvassing Members of Parliament or Officers of the Ministry will render a candidate liable to disqualification.

Forms of application, with further particulars of the appointment, may be obtained from the Director of Establishments, Ministry of Health, Whitehall, S.W.1.

No application can be considered unless received on the prescribed form not later than November 10th.

CITY OF LEEDS

The Public Assistance Committee invite applications from fully qualified persons for the appointment of MEDICAL OFFICER (Part-time) for the No. 2 Medical Relief District (a general description of the boundaries being Woodhouse Lane, Claypit Lane, Elmwood Green, Meanwood Street, Barrack Street, Buslingthorpe Lane, Meanwood Beck, Cliff Lane, and West End Terrace). Salary £200 per annum. The appointment is not subject to superannuation provisions. Any other information desired will be furnished on request. The appointment is subject to the approval of the Ministry of Health and to any alteration in the district to which the Ministry may in future agree. The person appointed will be required to reside in the Medical Relief district unless the Council consent to his having a surgery only therein.

Applications, stating age and qualifications and with copies of recent testimonials, must be received by me not later than October 15th.

11, South Parade, G. CLEGG,
Leeds, 1. Acting Public Assistance Officer:
October 4th, 1934.

UNIVERSITY COLLEGE HOSPITAL,

Gower Street, W.C.

Applications are invited for the Honorary post of ANAESTHETIST to University College Hospital for duty on three half days per week, and should be forwarded to the Secretary before noon on October 30th, accompanied by not more than three testimonials.

INDIAN RESEARCH FUND ASSOCIATION.

Applications are invited from experts on nutrition to undertake INDEPENDENT CHARGE of NUTRITIONAL RESEARCH under the Indian Research Fund Association at Coonoor, a hill station (6,000 ft. above sea level) in the Madras Presidency of India.

Candidates must be graduates in medicine who have a wide experience of nutritional research both in the field and in the laboratory, and who have made original contributions on the subject. They must be of sound constitution and not more than 45 years of age. Candidates must possess a sound knowledge of English.

Pay in the scale of Rs.1,250-100-1,750, with usual departmental travelling and halting allowances. In addition an overseas pay of Rs.500 per mensem will be given to a person of non-Asiatic domicile, if appointed. The commencing pay of the selected candidate may be fixed at a higher rate than the minimum of the scale of Rs.1,250-100-1,750 if the experience and qualifications of the candidate selected justify this. The current value of the rupee is approximately 1s. 6d. The commencing rate of pay plus overseas pay is approximately equivalent to £1,575 per annum.

The appointment will be for three years in the first instance, renewable thereafter.

An officer recruited out of India will be entitled to free passages as shown below:

- (i) if of non-Asiatic domicile first-class "C." by P. & O. or equivalent to India and return passage of the same class on termination of his appointment;
- (ii) if of Asiatic domicile, first-class "C." by P. & O. or equivalent to India;
- (iii) free passages as above will also be provided for wife, if married.

Leave according to the rules of the Association.

All applications must be made on the prescribed form, copies of which can be had from the High Commissioner for India, India House, Aldwych, London, W.C.2.

Final date for receipt of completed forms of application is November 30th.

COUNTY BOROUGH OF SOUTHEAST-ON-SEA.

DEPUTY MEDICAL OFFICER OF HEALTH.

Applications are invited for appointment as Deputy Medical Officer of Health. Candidates should be under 40 years of age, and must have had previous experience in the work of a Public Health Department. The candidate appointed will be required to assist the Medical Officer of Health who is also School Medical Officer, and to undertake any duty in connection with the Public Health Department which may be allotted to him. The salary will be at the rate of £700 per annum, increasing annually by £25 to a maximum of £900 per annum, with a motor car allowance of £80 per annum. The appointment is a designated post under the Local Government and Other Officers Superannuation Act.

Forms of application may be obtained from the Medical Officer of Health, Public Health Office, Southend-on-Sea, and should be returned to him accompanied by three testimonials (copies only) on or before Wednesday, October 24th.

Town Clerk's Office, H. J. WORWOOD,
Southend-on-Sea. Town Clerk.
October 8th, 1934.

EAST SUSSEX COUNTY COUNCIL.

APPOINTMENT OF DISTRICT MEDICAL OFFICER AND PUBLIC VACCINATOR FOR THE DISTRICT OF BURGESS HILL.

Applications are invited from qualified Medical Practitioners for the above-named appointments.

Salary for post of District Medical Officer £80 per annum, with extra fees for special services. Remuneration for services as Public Vaccinator is by fees varying from 2/6 to 8/6 per case according to distance from residence of officer.

Applicants must reside within the district of Burgess Hill, or undertake to reside therein within three months after appointment. The County Council may depart from this regulation for special reasons if necessary.

The appointment is subject to the Poor Law and Vaccination Acts and Orders.

Form of application and particulars may be obtained from the County Medical Officer of Health, County Hall, Lewes, to whom applications must be sent to reach him by Monday, October 22nd.

County Hall, H. J. T. MCILVEEN,
Lewes. Clerk of the County Council.

POSITION OF MEDICAL SUPERINTENDENT, PALMERSTON NORTH HOSPITAL, PALMERSTON NORTH, NEW ZEALAND.

Applications are invited from qualified Medical Practitioners for the above position. Salary £600 per annum, with board and residence.

A. J. PHILLIPS, Managing Secretary.

CITY OF LIVERPOOL.

APPOINTMENT OF ASSISTANT MEDICAL OFFICER.

Applications are invited for the post of Assistant Medical Officer from duly qualified women, at a commencing salary of £500 per annum, rising by annual increments of £25 to £700 per annum.

The appointment will be held subject to the Standing Orders of the Council, and be determinable by three months' notice on either side.

The officer appointed must devote the whole of her time to the duties of the office, and must not engage in private practice. She must be prepared to perform maternity and child welfare and such other duties as may be required by the Medical Officer of Health. She should have held a previous appointment as Medical Officer of maternity and child welfare clinics with the approval of the Minister of Health, or have had at least three years' experience in medical practice with special experience of practical midwifery and ante-natal work and in the care of young children.

The holding of a Diploma in Public Health and experience in the treatment of Venereal Diseases will be deemed additional qualifications for this post.

The officer must reside within the city boundary, and will be required to pass a medical examination.

Canvassing, directly or indirectly, will disqualify.

Applications should be made upon forms obtainable from the Medical Officer of Health, Municipal Annex. These forms should be returned to the undersigned, together with copies of three recent testimonials, not later than November 1st, and endorsed "Assistant Medical Officer."

Municipal Buildings, WALTER MOON,
Liverpool. Town Clerk.
October 5th, 1934.

BOROUGH OF BARKING.

ASSISTANT MEDICAL OFFICER (Female).

Applications from qualified Medical Practitioners (females) are invited for the post of Assistant Medical Officer of Health and Assistant School Medical Officer.

Preference will be given to applicants who have had previous experience in public health work, and who hold a registrable qualification in public health.

The principal duties will consist of maternity and child welfare work, medical inspection and treatment of school children, the treatment of infectious fevers, etc., the whole of which will be carried out under the direction of the Medical Officer, who is also School Medical Officer.

The officer appointed will be required to devote her whole time to official duties, and to reside within the district.

The appointment will be subject to one month's notice on either side. The salary will be in accordance with the scale, £500 to £700 per annum, rising by annual increments of £25.

The person appointed will be required to pass a medical examination and to contribute to the Council's Superannuation Fund.

Forms of application may be obtained from the undersigned, to whom they should be returned, endorsed "Assistant M.O.H.," with copies of not more than three recent testimonials, not later than October 22nd.

Town Hall, S. A. JEWERS,
Barking. Town Clerk.
October 3rd, 1934.

SOUTH SHIELDS EDUCATION AUTHORITY.

APPOINTMENT OF EAR, NOSE, AND THROAT SURGEON.

Applications are invited from specialists in diseases of the ear, nose, and throat for the part-time post of Ear, Nose, and Throat Surgeon, at a salary of £200 per annum.

Forms of application containing particulars of the duties of the position may be obtained from the Medical Officer of Health, Town Hall, South Shields, and must be returned, duly completed, not later than October 19th, to the Secretary of the Education Committee, Town Hall, South Shields, and endorsed "Appointment of Surgeon."

Canvassing is strictly prohibited.

Town Hall, HAROLD AYREY,
South Shields. Town Clerk:
September 28th, 1934.

ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, BRIGHTON. (100 Beds.)

HOUSE SURGEON (Male) required. Salary at the rate of £120 per annum, with board, lodging, and washing. Good experience, including sun-ray treatment. No canvassing. To commence duties immediately. Applications, in writing, accompanied by testimonials, should be sent to PERCY F. SPOONER, Secretary, Dyke Road, Brighton.

October 8th, 1934.

APPOINTMENTS.—Important Notice.

Medical practitioners are requested **not to apply** for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	CONTRACT PRACTICE (contd.)	PUBLIC HEALTH (contd.)
INVICTA MEDICAL AID SOCIETY, ROCHESTER. (Medical Officer.)	MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	COUNTY COUNCIL OF KINCARDINE. (Deputy Medical Officer of Health.)
EBBW VALE, MON. (Workmen's Medical Society.)	NEATH AND DISTRICT. (Medical Aid Association.)	CITY OF STOKE-ON-TRENT EDUCATION COMMITTEE. (Assistant School Medical Officer.)
GILFACH GOCH, GLAMORGAN. (Workmen's Medical Scheme.)	OAKDALE, MON. (Medical Officer for Medical Aid Association.)	COUNTY BOROUGH OF TYNEMOUTH. (Assistant Medical Officer of Health—Male.)
LLANELLY AND DISTRICT WORKMEN'S MEDICAL COMMITTEE. (All Medical Appointments.)	OGMORE VALLEY, GLAMORGAN. (Wynndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)	PUBLIC ASSISTANCE
LLWYNPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. (Workmen's Medical Scheme.)	PUBLIC HEALTH	COUNTY BOROUGH OF BARROW-IN- FURNESS. (District Medical Officer.)
LOWESTOFT MEDICAL INSTITUTE. (Medical Officer.)	CORNWALL COUNTY COUNCIL. (Medical Superintendent—Tehidy Sanatorium, Cornwall.)	

(b) Overseas.

Medical practitioners are requested **not to apply** for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. (All Friendly Society Appoint- ments.)	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Mac- quarie St., Sydney, N.S.W.	QUEENSLAND. (Brisbane Asso- ciate Friendly Societies Insti- tute.)	The Hon. Sec., Queens- land Branch, British Medical Association, B.M.A. Building, Ade- laide St., Brisbane.	WELLINGTON, NEW ZEALAND (Contract Practice Appointments.)	Dr. G. F. V. ANSON (Hon. Sec., New Zea- land Branch), British Medical Association, P.O. Box 156, Welling- ton, New Zealand.
VICTORIA. (All Institute or Medical Dispen- saries.)	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medi- cal Association, Medi- cal Society Hall, East Melbourne, Victoria.			WESTERN AUSTRALIA (Contract and Lodge Practices.)	Hon. Sec., Western Australian Branch, British Medical Associa- tion, "Shell House," 205, St. George's Ter- race, Perth, Western Australia.

October 10th, 1934.

By Order of the Council.

G. C. ANDERSON, Medical Secretary.

FREE EYE HOSPITAL, SOUTHAMPTON. (26 Beds.)

Applications are invited for the appointment of HONORARY OPHTHALMIC SURGEON.

Candidates must have held an appointment for at least six months in a recognised Ophthalmic Hospital, or in the Ophthalmic Department of a General Hospital.

Candidates must not be engaged in general practice.

The Honorary Assistant Ophthalmic Surgeon is a candidate for the appointment, and if he should be elected the Committee will proceed to elect an Honorary Assistant Ophthalmic Surgeon, for which post applications are also invited.

Candidates are requested to forward their applications, accompanied by not more than three testimonials, to the undersigned so as to arrive not later than November 3rd.

Canvassing by or on behalf of any candidate will disqualify.

E. T. KEMP, Secretary.

ROYAL EYE HOSPITAL, Pevensy Road, EASTBOURNE, SUSSEX.

NON-RESIDENT HOUSE SURGEON required, to commence duty forthwith on election. Experience in refraction work essential. Salary £100 per annum, with, in addition, an allowance of £150 per annum in lieu of board, residence, and laundry, the place of residence being subject to the approval of the Executive Committee. The appointment will be for six months in the first instance, the holder being eligible for a further period of six months.

Applications, stating age, qualifications, and with copies of testimonials, should reach the undersigned on or before October 31st next.

HAROLD BYGRAVE, Hon. Secretary.

ALTRINCHAM GENERAL HOSPITAL. (100 Beds.)

Applications are invited for the post of SENIOR HOUSE SURGEON. Salary at the rate of £150 per annum, with board, etc. Six months' appointment, to commence duty as soon as possible. Applications, stating age, nationality, qualifications, etc., to be addressed to the undersigned.

ALSO.

Applications are invited for the post of JUNIOR HOUSE SURGEON. Salary at the rate of £120 per annum, with board, etc. Six months' appointment to commence duty on November 1st. Applications, stating age, nationality, qualifications, etc., to be addressed to the undersigned.

E. A. BIDEN, Secretary.

S. T. THOMAS'S HOSPITAL. VACANCY.

Applications are invited for the appointment of an ASSOCIATE PLASTIC SURGEON to the Hospital. Candidates must be Fellows of the Royal College of Surgeons of England.

Applications, with testimonials and full details of academic career, must be sent to the Clerk to the Governors on or before Oct. 20th.

S. T. THOMAS'S HOSPITAL. VACANCY.

The appointment of a RESIDENT ANAESTHETIST for one year, renewable for a further year. Salary £200 per annum.

Applications, with full details of academic career and testimonials, to be forwarded to the Clerk to the Governors on or before Oct. 22nd.

COUNTY MENTAL HOSPITAL, WHITTINGHAM, PRESTON, LANCs.

RESIDENT MALE JUNIOR ASSISTANT MEDICAL OFFICER required. Salary £500, rising by annual increments of £25 to £600. No emoluments. £50 per annum is paid in addition if the successful candidate has a Diploma in Psychological Medicine or when he obtains the same. If single the successful candidate will be required to live in the Hospital and charges at the rate of £150 per annum will be made for board, furnished apartments, and washing. If married, the successful candidate will be required to occupy a house in the Hospital grounds at a rental of £50 per annum. Candidates must be duly registered under the Medical Act. Applications, stating age, which must not exceed 40 years, qualifications, and copies of testimonials should reach the Medical Superintendent not later than October 20th. The appointment is subject to the provisions of the Asylum Officers Superannuation Act, 1909.

THE BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.9.

The Committee of Management invite applications for the posts of HOUSE PHYSICIAN and HOUSE SURGEON which will become vacant on October 31st next.

Applicants (men) must be fully qualified and registered.

The appointments are for six months, with board, residence, and washing provided.

Salary at the rate of £100 per annum. Applications, with copies of testimonials, stating age, should be forwarded to the Secretary not later than October 18th.

(Appointments continued on p. 54)

BRITISH MEDICAL JOURNAL

B.M.A. HOUSE, TAVISTOCK SQUARE,
LONDON, W.C.1

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DROITWICH SPA.—A BRAND NEW HOTEL in a 300 year old country house. Perfect cuisine, delightful grounds, sun lounge, with vista-glass windows. Send for the Norbury House Hotel book, or call for lunch and see the place yourself.—Phone: Droitwich 173.

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PATHOLOGICAL AND BACTERIOLOGICAL LABORATORY ASSISTANTS ASSOCIATION.—Pathologists and Bacteriologists requiring SKILLED CERTIFICATED LABORATORY ASSISTANTS are invited to communicate with H. GOODING, Hon. Sec., "Moelfre," 10, Holbeck Grove, Victoria Park, Manchester. No fees.

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HARLEY STREET.—PART-TIME CONSULT- ing ROOM TO LET, with or without plate; also full-time room. Central heating. A.C. power, dark room available. Moderate rent.—Address, No. 6228, B.M.A. House, Tavistock Square, W.C.1.

HARLEY STREET.—TO LET, A CONSULTING ROOM, and modern self-contained FLAT with consulting room. Terms moderate. Telephone and door service good.—Address, No. 5359, B.M.A. House, Tavistock Square, W.C.1.

HARLEY STREET.—VERY WELL-FURN- ished and appointed first-floor CONSULTING ROOM. Half share £150. Whole-time £275.—Address, No. 6218, B.M.A. House, Tavistock Square, W.C.1.

HARLEY STREET.—VERY WELL APPOINTED first-floor CONSULTING ROOM, oak floor, electric power, constant hot water. £225, or two sharing £250.—Address, No. 6217, B.M.A. House, Tavistock Square, W.C.1.

HOVE SUSSEX.—AN EXCEPTIONAL OPPOR- tunity for Doctor or Dentist. First Floor Self-contained FLAT TO LET in Principal thoroughfare, five rooms, bathroom. Rent £125 inclusive.—Apply, WALES, 173, Church Road, Hove.

IN THE DELIGHTFUL CHILTERN, 500 FT. above sea level. An exceptionally attractive FREEHOLD PROPERTY of 12 ACRES. Charming residence of 19 rooms, beautifully furnished and appointed. Constant hot water. Central heating. EMINENTLY SUITABLE AS A NURSING OR CONVALESCENT HOME. Price for the property and entire contents £10,000, or might sell property alone.—Sole Agents: HAMPTON & SONS, 20, St James's Sq., S.W.1.

QUEEN ANNE STREET.—ONLY £40 PER annum secures handsomely furnished ground-floor CONSULTING ROOM, with use of waiting room and all services when required.—Address, No. 5862, B.M.A. House, Tavistock Square, W.C.1.

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SUIT DOCTOR, DENTIST, DETACHED RESI- DENCE, at entry large new estate, 12 miles London. Lovely surroundings, backing golf. Six rooms, garage. Ample room extension. £1,500.—Address, No. 6204, B.M.A. House, Tavistock Square, W.C.1.

TO LET IMMEDIATELY, LOCK-UP SURGERY, North London crowded district, 25/- weekly, living accommodation if desired. Opportunity to succeed practice established over five years.—Address, No. 6180, B.M.A. House, Tavistock Square, W.C.1.

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APPOINTMENTS.—Contd.

THE BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL.

Wanted, SENIOR RESIDENT MEDICAL OFFICER. Salary £180 per annum, with board and residence. Must be fully qualified and have had some experience in Hospital Surgical work. Applications, stating age and experience, together with copies of three recent testimonials, to be sent not later than October 20th to the undersigned.

High Lane, C. E. LOWNDES,
Burslem, Stoke-on-Trent. Secretary.

THE ROYAL DENTAL HOSPITAL OF LONDON, Leicester Square, W.C.2.

Applications are invited for the post of HONORARY PATHOLOGIST at the above Hospital. Candidates, who must have a knowledge of Bacteriology, are requested to send in forty copies of their application and testimonials, stating experience and qualifications, not later than October 24th, to the Secretary-Supt.

THE ROYAL DENTAL HOSPITAL OF LONDON, 32, Leicester Square, W.C.2.

TWO PART-TIME HOUSE ANAESTHETISTS required for In-patient and Out-patient duties at this Institution, on January 1st, 1935. The posts are non-resident. Honorarium 10/6 per session. Candidates are requested to send in forty copies of applications and testimonials on or before October 23rd, to the Secretary-Supt., from whom further particulars may be obtained.

THE KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION.

Applications are invited from duly registered Medical Practitioners for the post of ASSISTANT RESIDENT MEDICAL OFFICER at the Glam Ely Tuberculosis Hospital (186 beds for pulmonary and non-pulmonary tuberculosis in adults and children), Fairwater, near Cardiff. Salary £200 per annum, plus maintenance (subject to an emergency deduction of £4.5s. per annum).

The appointment is limited to a period of one year.

Applications, stating age, qualifications, experience, etc., together with copies of three recent testimonials, should reach the undersigned not later than October 17th.

Memorial Offices, D. A. POWELL,
Westgate Street, Principal Medical
Cardiff. Officer.

CITY OF SHEFFIELD. CITY GENERAL HOSPITAL.

JUNIOR ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified Medical Men for the appointment of Junior Assistant Medical Officer at the above Hospital. The Medical Officer appointed will be required to take duty in the Medical, Surgical, or Maternity Departments as directed by the Medical Superintendent.

The appointment will be for one year only, and the salary offered is £200 per annum, with the usual residential allowances.

Previous hospital experience is desirable. Applications should be sent to the Medical Superintendent, City General Hospital, Sheffield, 5, accompanied by not more than three testimonials of recent date.

ROYAL VICTORIA INFIRMARY, NEWCASTLE-UPON-TYNE. (731 Beds.)

Applications are invited for the post of Whole-time REGISTRAR to the ORTHOPAEDIC DEPARTMENT (open appointment). Candidates must be registered in Medicine and Surgery.

The appointment will be for one year, commencing November 5th, and may be further renewed on conditions.

The rate of remuneration is £150 per annum. Regulations governing the appointment must be obtained from the undersigned, and applications, stating age and full particulars, with copies of not more than three recent testimonials, should be sent in not later than Friday, October 26th.

S. DUNSTAN,
Oct. 9th, 1934. House Governor & Sec.

COUNTY BOROUGH OF BRIGHTON. SANATORIUM AND INFECTIOUS DISEASE HOSPITAL.

Applications are invited for the post of MALE JUNIOR RESIDENT MEDICAL OFFICER. Salary £250 per annum, with board and lodging.

The appointment is for a period of six months. Particulars and form of application can be had from the undersigned.

Latest date for receipt of applications, October 22nd.
Town Hall, Brighton, J. G. DREW,
September 29th, 1934. Acting Town Clerk.

HOSPITAL OF ST. JOHN & ST. ELIZABETH, 60, Grove End Road, N.W.8.

Applications are invited for the post of ANAESTHETIST. The successful candidate will be required to attend for Dental work at 10 a.m. on Tuesdays, and for general surgical work on Friday afternoons at 2 p.m.

Applicants are required to call on all members of the Medical Committee, a list of the members of which will be supplied on application to the Secretary.

Applications, with copies of three testimonials, must reach the undersigned on or before Monday, October 29th.

F. DUDLEY HOBBS, B.A., Secretary.

ROYAL NORTHERN HOSPITAL, Holloway, N.7.

Applications are invited for the following post:

OPHTHALMIC SURGEON (Second). Candidates must be Fellows of the Royal College of Surgeons of England. Particulars of the office and details with regard to the submission of testimonials, etc., may be obtained from the undersigned, to whom applications should be sent not later than October 27th.

GILBERT G. PANTER, Secretary.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

Applications are invited for the following vacant appointments:

HONORARY ASSISTANT PHYSICIAN. Candidates must hold the M.D. degree, and be members of the Royal College of Physicians of London.

HONORARY DERMATOLOGIST. Candidates must possess special qualifications for the post, to which work the duties will be entirely confined.

HONORARY MEDICAL PSYCHOLOGIST.

Applications and testimonials to be sent addressed to the Chairman of the Honorary Medical Officers Election Committee not later than Saturday, October 27th.

Extract Rule 17.—Any candidates shall be disqualified who advertises in the public papers, or personally canvasses the members of the Election Committee; but candidates are to be at liberty to send to the members copies of their applications and accompanying documents as delivered to the Chairman of the Committee.

FRANK SOLMAN, Supt. & Secretary.

COUNTY MENTAL HOSPITAL, PRESTWICH, MANCHESTER.

ASSISTANT MEDICAL OFFICER required (Junior). Commencing salary £500 per annum, rising to £600 by yearly increments of £25, plus £50 per annum on obtaining the D.P.M., less charges for board, furnished apartments, attendance, and laundry, valued at £150 per annum. Further increases according to promotion.

Candidates must be unmarried, and registered under the Medical Act. The appointment is subject to 3 per cent. deduction from salary under the Asylums Officers Superannuation Act, 1909. Apply, stating age and full particulars to the Medical Superintendent.

BRISTOL ROYAL INFIRMARY.

Applications are invited for the post of HONORARY ASSISTANT SURGEON. Candidates, who must be Masters of Surgery of one of the Universities of Great Britain or Ireland or Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland, to send in their applications, stating age and accompanied by copies of not more than three recent testimonials, to the undersigned on or before October 20th.

ELLIS C. SMITH, F.C.I.S.,
Secretary & House Governor.

BRISTOL ROYAL INFIRMARY.

Applications are invited for the post of HONORARY SURGEON. Candidates who must be Masters of Surgery of one of the Universities of Great Britain or Ireland, or Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland, to send in their applications, stating age and accompanied by copies of not more than three recent testimonials, to the undersigned on or before October 20th.

ELLIS C. SMITH, F.C.I.S.,
Secretary & House Governor.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.

There will be a vacancy on November 1st, for a HOUSE PHYSICIAN (Male) at the above Hospital. The appointment is in the first instance for a period of six months. Salary at the rate of £100 per annum, with board and residence. Applications, with copies of testimonials, should be forwarded not later than Thursday morning, October 18th, to the Secretary at the above address, from whom further particulars can be obtained.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.

The Managing Committee invite applications from qualified medical women for the following staff appointment:

ASSISTANT SURGEON TO THROAT, NOSE, & EAR DEPARTMENT.

Applicants must be Fellows of the Royal College of Surgeons. Applications, with twelve copies of three testimonials, to be sent to the undersigned by October 26th.

JEAN R. MURRAY, Secretary.

DONCASTER ROYAL INFIRMARY. (185 Beds.)

HOUSE SURGEON to Ear, Nose, and Throat, and Eye Departments required immediately.

Salary at the rate of £175 per annum, with board, residence, and laundry.

Applications, accompanied by not more than three testimonials, to be sent to the undersigned immediately.

WALTER R. SMITH, Secretary-Supt.

METROPOLITAN HOSPITAL, Kingsland Road, E.8.

There are vacancies for the following:

- (a) SENIOR HOUSE PHYSICIAN;
- (b) SENIOR HOUSE SURGEON;
- (c) JUNIOR HOUSE PHYSICIAN;
- (d) JUNIOR HOUSE SURGEON;
- (e) CASUALTY OFFICER;

males. Salary £100 per annum.

Appointments, in the first place, will be for a period of six months dating from Nov. 1st.

Candidates must possess a registered Medical and Surgical qualification of the United Kingdom.

Applications, stating age, nationality, etc., with copies of three recent testimonials and a certificate of ability to administer Anaesthetics, should be sent to the undersigned by first post on October 19th.

Two members of the Resident Staff are candidates for the two Senior appointments.

GEO. W. COOLING, Sec. & House Gov.

S.T. PANCRAS DISPENSARY, Oakley Square, N.W.1.

There is a vacancy for a DENTAL SURGEON. Applications for the post are invited from Graduates or Licentiates in Dental Surgery, who must be registered in the *Dentists Register*. Applications, accompanied by copies of three recent testimonials, must be received not later than Monday, October 29th, by the Honorary Secretary, J. PETER BOKIN, Esq., 2, Endsleigh Street, London W.C.1.

THE DEWSBURY AND DISTRICT GENERAL INFIRMARY.

Applications are invited for the post of HOUSE SURGEON (Male). Salary £160 per annum, with board, residence, and laundry.

The Hospital is a new one of 100 beds, and has the usual Special Departments, with Visiting Consulting Specialists in attendance.

Applications, stating age and hospital experience, together with copies of three recent testimonials, to be sent to the undersigned before October 24th.

FRED SMITH, Secretary-Supt.

APPLICATIONS ARE INVITED FOR THE post of HONORARY MANIPULATIVE ORTHOPAEDIC SURGEON to the ST. JOHN CLINIC AND INSTITUTE OF PHYSICAL MEDICINE. Candidates should be Fellows of the Royal College of Surgeons, England, and should have experience in manipulative orthopaedic surgery, with particular reference to the rheumatic joint diseases. Applications should be sent not later than October 29th, to the Secretary, at the above Clinic, Ranelagh Road, S.W.1.

ROYAL NORTHERN HOSPITAL, Holloway, N.7.

Applications are invited for the following post:

CLINICAL ASSISTANT in the Children's (Out-patient) Department.

Attendance Monday afternoons and Thursday mornings.

Applications should be addressed to the Secretary.

GILBERT G. PANTER, Secretary.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.

Applications are invited before October 27th, for the post of SECOND ASSISTANT to the Surgical Unit.

Candidates must be Fellows of the Royal College of Surgeons. Salary £500 a year. The appointment is for one year, but may be renewed for a further period of two years.

C. M. WILSON, M.D., F.R.C.P., Dean.

CAERNARVONSHIRE AND ANGLESEY INFIRMARY, BANGOR. (A General Hospital.)

Wanted, A SENIOR and a JUNIOR HOUSE SURGEON. Salary respectively £150 and £100 p.a., with residence, board, and laundry. Duties to commence November 15th. The present H.S. is a candidate for the senior post.

Applications, stating age, nationality, and experience, to reach the Secretary before October 31st.

PONTYPOOL AND DISTRICT HOSPITAL, PONTYPOOL, MON. (78 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER. Salary £150 per annum, with board and laundry.

Conditions of appointment and particulars of duties can be obtained from the undersigned. Applications must state age and qualifications.

NORMAN A. BALE, Secretary.

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THE CANCER HOSPITAL (FREE) (Incorporated under Royal Charter), Fulham Road, London, S.W.3.

Applications are invited for the post of ASSISTANT RADIUM OFFICER (Full-time) at The Cancer Hospital, Fulham Road, London, S.W.3.

The appointment will be for one year at a salary at the rate of £350 per annum.

Applications, giving full particulars as to age, qualifications, etc., together with copies only of three recent testimonials, should be sent to the Secretary on or before Monday, Oct. 15th. CLEMENT COBBOLD, Secretary.

PRINCESS ALICE HOSPITAL, EASTBOURNE.

RESIDENT HOUSE SURGEON required on November 1st next. Salary at the rate of £150 per annum, with board and laundry.

Applications from qualified and registered practitioners (male), accompanied by copies of three testimonials, should be delivered to the undersigned by first post on Wednesday, October 17th.

W. RUSSELL RUDALL, Secretary.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.

RESIDENT MEDICAL OFFICER (Male or Female) required for the Isolation Hospital (for puerperal fever) at Ravenscourt Square, Hammersmith, W.6, to commence duty on December 1st. Appointment for six months, which may be extended for a further six months. The salary is at the rate of £200 per annum, with board, residence, and washing.

Applications, with copies of testimonials, will be received by the undersigned up to Oct. 20th.

H. B. STOKES, Secretary-Supt.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL. HONORARY ASSISTANT SURGEON.

The Committee propose to appoint an Honorary Assistant Surgeon whose duties will include attendance in the Out-patient Department on Thursdays and possibly one other afternoon, and charge of beds. Applicants must be B.R.C.S. England, and applications, with copies of three recent testimonials, should be received by the House Governor, 234, Great Portland Street, W.1, on or before October 16th.

ST. GEORGE'S HOSPITAL, S.W.1

A vacancy will shortly occur in the office of SURGEON and also of ASSISTANT SURGEON, at the above Hospital. Candidates for these offices, who must be Fellows of the Royal College of Surgeons (England) and registered according to the Medical Act, 1858, should send in their applications to the Secretary on or before Saturday, October 27th.

The Senior Assistant Surgeon is a candidate for the office of Surgeon.

JAMES M. CHURCHFIELD,
October 9th, 1934. Secretary.

ST. MARY'S HOSPITALS, MANCHESTER.

RESIDENT OBSTETRIC OFFICER for the WHITWORTH STREET WEST HOSPITAL (Maternity) for a period of twelve months from November 1st next. Salary £175 per annum, with board and residence. Membership of the College of Obstetricians and Gynaecologists would be an advantage.

Applications, with copies of three testimonials, to be sent to the undersigned on or before the 15th instant.

R. RATCLIFFE, Secretary.

THE CHILDREN'S HOSPITAL, HAMPESTEAD, 30, College Crescent, N.W.3. (63 Beds.)

Applications are invited from registered Medical Practitioners for the post of RESIDENT MEDICAL OFFICER which will become vacant on November 1st. Salary at the rate of £150 per annum, with board, residence, and laundry. Appointment for six months. Applications, stating age, nationality, qualifications, and experience, with copies of three testimonials, should reach the undersigned on or before October 19th.

H. W. WALLIS GRAIN, Secretary.

CHESTER ROYAL INFIRMARY. (211 Beds.)

HOUSE SURGEON (Male) required for November 1st. Salary £150 per annum, with board, lodging, and washing. The appointment is approved for the examination for M.S. (Branch 1) Surgery (London Univ.) and similar higher examinations.

Application list closes October 18th.

Application forms may be obtained from—

W. H. GRACE, M.D., M.R.C.P.
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MIDLAND TOWN. — PARTNERSHIP AVER aging £1,150, rapidly increasing, great scope. One-third share for sale at £800.—No. 9368.

LONDON, W. — AVERAGE £900 P.A.; HALF Ophthalmic. Panel 500. Apts. £60. Fees 10/6 up. Ophth. 21/- up. Convenient house to rent. Premium £1,800 or near.—No. 9365.

NEAR LIVERPOOL. — WOMAN'S PRACTICE. Would suit man. £1,000 p.a. No panel. Visiting fees 3/6 up. surg. 2/6 up. Midy. £2 2s. up. House on lease at £52 p.a., 5 bed., etc. Premium 1 year's purchase.—No. 9359.

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3 N. LONDON.—WELL-ESTABLISHED PRACTICE AVERAGING £1,680 p.a. in thickly-populated District. Panel 1,280. Double-fronted house (6 bed and dressing rooms), with good garden and garage, price £4,000. Separate surgery (part sub-let) for sale at £1,000. Scope for increase. Premium £3,500.

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7 HOME COUNTY.—OLD-ESTABLISHED PRACTICE ABOUT £900 p.a. in Town about 10 miles from London. Panel about 1,270. Visits 3/6 to 5/-. Detached house (4 bedrooms, etc.) in good residential part to rent. Premium £1,900, to include some furniture and fittings.

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10 MIDLANDS.—OLD-ESTABLISHED PRACTICE IN FIRST-RATE Town. Cash receipts average nearly £2,200 p.a., including Public Medical Service and panel of about 2,300. Nice house (5 bedrooms, etc.) in very good position, with small garden and garage for sale. Good scope for increase, as considerable building is going on. Premium two years' purchase.

11 LONDON, S.E.—MIXED PRACTICE ABOUT £600 P.A. IN Suburban District. Panel about 300. Nine-roomed house to rent on lease. Premium, to effect quick sale, £600.

12 INDIA.—LARGE WELL-ESTABLISHED AND RAPIDLY INCREASING OPHTHALMIC PRACTICE in Delhi. There is unlimited scope for suitably qualified Medical Man or Woman. Climate excellent. Moderate premium for quick sale.

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15 N. OF ENGLAND.—OPHTHALMIC PRACTICE IN IMPORTANT Town. Cash receipts 1933 £638 increasing. One appointment. Fees mostly £2 2s. Moderate premium for quick sale.

16 S. COAST.—SMALL PRACTICE IN RAPIDLY GROWING SEASIDE Town. Receipts 18 months to April 30th last, £355. Panel just over 100. House (4 bedrooms) standing in grounds about half an acre, for sale. Scope for increase as building is proceeding rapidly. Premium 1½ years' purchase.

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22 S.W. OF ENGLAND.—GOOD MIDDLE-CLASS NON-DISPENSING PRACTICE in Seaside Resort. Cash receipts average nearly £750 p.a. No panel, but scope in this direction. Visits 3/6 to 14/6. Nice house (7 bed and dressing rooms) with electric light and hot water system for sale. Sport of all kinds. Plenty of good society and educational facilities. Hospital. Premium one and a half years' purchase.

23 CAPE PROVINCE. — WELL-ESTABLISHED PRACTICE IN small Town in one of the foremost Farming Districts (altitude over 5,300 ft.). Cash receipts year ending June 30, 1934, £1,100. Including appointment worth £200. Visiting fees 7/6 in town by day, £1 1s. by night. Country at the rate of 4/- by day, 6/- by night. House contains spacious lounge, 2 bedrooms, bath-room, surgery, etc. Garden and good garage. Price about £1,475. Reasonable premium.

24 DEATH VACANCY. — OPHTHALMIC PRACTICE OF ABOUT £3,000 p.a. in an important Town in the South of England. Consultations £3 3s. Operations 15 to 100 gns.

25 LONDON, E.5.—WELL-ESTABLISHED PRACTICE £420 P.A. Panel 150. Visits 3/6, 5/- (night 10/6). Shop-fronted surgery and flat to let. Premium £350.

26 BIRMINGHAM.—OLD-ESTABLISHED PRACTICE AVERAGING £650 p.a. in suburban district. Panel about 800. Visits 2/6 to 7/6, medicine not included. Substantially built house (7 bed and dressing rooms) occupying prominent corner position with garage and small garden for sale. Considerable scope as district is growing. Premium £1,300.

27 LONDON, W.—PARTNERSHIP IN WELL-ESTABLISHED PRACTICE between £1,100—£1,200 p.a. in residential area easy reach of West End. Incoming Partner should be aged 50-55. Great scope for panel work. One-half share (£500 p.a. guaranteed) would be sold for £1,000.

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30 LONDON, S.E.—WELL-ESTABLISHED PRACTICE IN GROWING residential suburban district. Receipts past twelve months £975. Panel over 560. Visits 4/-, 7/6, and upwards. Excellent detached house (4 bedrooms) with garage and half acre of garden to rent. Scope for increase. Premium £1,700 or near offer.

31 S.W. OF ENGLAND.—PRACTICE CARRIED ON BY MEDICAL woman in coast town. Receipts average about £350 p.a. including appointments and small panel. Visiting fees 5/- to 7/-. Suitable house available. Premium £350.

32 COUNTY TOWN ABOUT 130 MILES FROM LONDON.—VERY old-established middle and upper-class PRACTICE averaging nearly £1,200 p.a. Panel 120. Visiting fees 7/6 to 15/6. Ten-roomed house in good residential part with garage and garden for sale. Scope. Premium £1,750.

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34 MEDITERRANEAN TOWN.—OLD-ESTABLISHED GOOD-CLASS non-dispensing PRACTICE averaging over £2,000 p.a. Fees chiefly £1 1s. Charmingly situated Flat for sale. Premium—Practice—one year's purchase.

35 LONDON, S.E. — PRACTICE ABOUT £350 P.A. WITHIN 5 miles of Charing Cross. Panel 320. House contains waiting room, surgery, dispensary, 2 bedrooms, etc., rent £63 p.a. Premium £500, or offer.

36 LONDON, E.—SMALL PRACTICE IN POPULOUS AREA. CASH receipts past year £425. Panel 351. Accommodation comprises 4 rooms, kitchen, bathroom, and is rented on lease. Premium 1½ years' purchase.

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39 CORNISH COAST.—SMALL PRACTICE IN DELIGHTFUL SEASIDE town worth about £250. No dispensing or panel. House, 3 bedrooms, electric light, gas, and walled-in garden to rent. Premium £250.

40 ESSEX. — NUCLEUS OF PRACTICE WORTH ABOUT £175 p.a., capable of good increase, in populous district. Panel 257. House (4 bedrooms) in main thoroughfare, with garden, for sale or rent. District rapidly growing. Premium £200, to include drugs and part of Surgery furniture.

41 HOME COUNTY. — PARTNERSHIP IN SOUND OLD-ESTABLISHED, about £6,500 p.a. in beautifully situated first-rate Country Town. House available which might be obtained on lease. Considerable scope for increase. Incoming Partner should be aged about 30, preferably married, and a physician with some knowledge of Pathology. Commencing share of (approximately) £1,170 p.a. would be sold at two years' purchase.

42 HERTS. — SMALL PRACTICE IN GROWING COUNTRY District. Income little over £200 p.a. with small panel. Nice freehold corner house (4 bedrooms), garden back and front, for sale. Very good prospects for energetic man. Premium £330.

43 W. OF ENGLAND. — OLD-ESTABLISHED PRACTICE IN County Town. Receipts average over £1,050 p.a., including appointment and clubs worth about £250 p.a. No panel, but Practice might be considerably increased in this direction. Visiting fees 5/- to 10/6 and £1 1s. Pleasantly situated corner residence (8 bedrooms) with garage and fair-sized garden for sale. Very good educational facilities. Building progressing. Premium two years' purchase.

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DEATH VACANCY. — Yorkshire (W.R.).—Old-established mixed panel and private PRACTICE. Cash receipts last year over £1,000 p.a., including £426 from panel. Good freehold house, with garage, etc. Premium—Practice, house, and valuable book debts—£2,000.—No. 610.

YORKSHIRE (N.R.). — PARTNER-SHIP in Panel and Club Practice in large town. Income, including £845 p.a. from appointments, £2,100 p.a. Panel 2,500. Scope for private practice. Purchaser can choose own residence. Premium—one-third share—best offer.—No. 612.

DERBYSHIRE.—Excellent PRACTICE in attractive Country and Market Town; in present hands 42 years. Average cash receipts £2,499 p.a., including appointments approx. £400 p.a. Panel 1,252. Good house, 3 reception, 8 bedrooms; garage, large garden, and tennis court. Cottage Hospital. Premium—Practice—2 years' purchase.—No. 605.

MIDLANDS. — Small PRACTICE in prosperous town. Cash receipts last year £616. Panel about 700. Good detached house, 2 reception, 7 bedrooms. Garage and garden. Prem., best offer.—No. 611.

MANCHESTER.—Old-established mixed-class PRACTICE, averaging over £837 p.a. Panel over 1,000. Scope. Good house, 4 bedrooms; garage and small garden, for sale or may be rented. Premium 1½ years' purchase.—No. 589.

NORTHERN CITY.—VENEREAL DISEASES PRACTICE. Cash receipts last year £1,747. Fees 10/6 to £3 5s. House to rent at £65 p.a. Premium 1½ years' purchase.—No. 594.

CO. DURHAM. — Old-established unopposed country PRACTICE. Cash receipts last year £877. Panel 573. Good house (with modern conveniences), 2 reception, 4 bedrooms; garage and large garden. Net rent £20 p.a. Vendor retiring. Premium 1½ years' purchase.—No. 593.

NORTH-WEST COAST.—RADIOLOGICAL PRACTICE. Cash receipts last year £809, including approx. £350 from appointments. Purchaser can choose own residence. Premium £1,275; part by instalments.—No. 588.

CONSULTING OPHTHALMIC PRACTICE in large City near North Wales Coast. Cash receipts last year £630. Appointment £50 p.a. Premium £500.—No. 607.

LANCS TOWN.—Old-established middle and better working-class PRACTICE convenient for North-West Coast. Cash receipts last

year £2,828. Panel 1,850. Nice detached house (in own grounds of ½ acre), 5 bedrooms, 2 reception rooms, garage, and large garden, to rent on lease. Premium, best offer.—No. 606.

NR. MANCHESTER. — Middle-class PRACTICE in residential district. Cash receipts over £1,200 p.a. Small select panel. Good house, 3 reception, 6 bedrooms; garage and garden, to rent on lease. Premium 1½ years' purchase.—No. 526.

NORTH-EAST COAST.—Very old-established middle and working-class PRACTICE. Cash receipts last year £1,388. Panel nearly 1,500. Scope. Good corner house, 2 reception, 5 bedrooms; garage and small garden. Rent £60 p.a. Premium, best offer.—No. 595.

CO. DURHAM.—Old-established mixed PRACTICE. Average cash receipts £1,264 p.a. Panel 767. Excellent house in prominent position, 2 reception, 5 bedrooms, garage. Premium—Practice—1½ years' purchase.—No. 581.

CUMBERLAND.—Old-established unopposed mixed PRACTICE in country district. Cash receipts over £400 p.a. Panel 300. Great scope for energetic man. Good house, 2 reception, 5 bedrooms; garage and garden. Rent £30 p.a. Vendor retiring. Premium, best offer.—No. 592.

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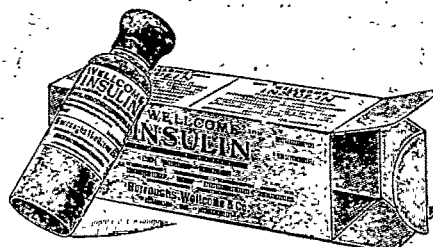
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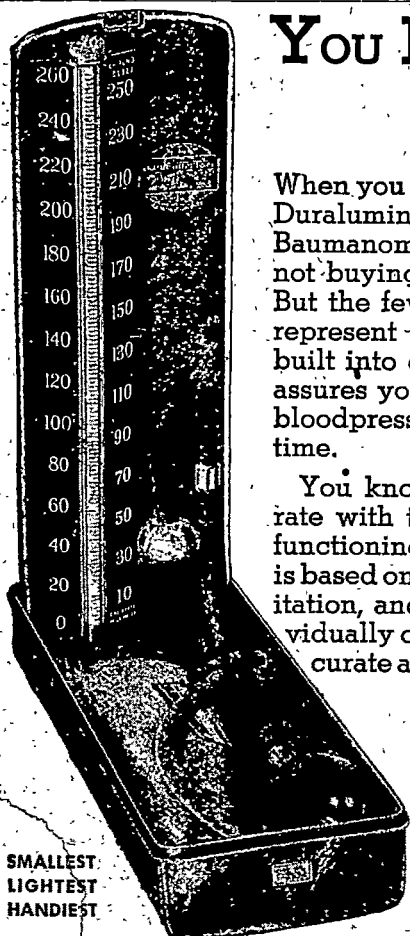
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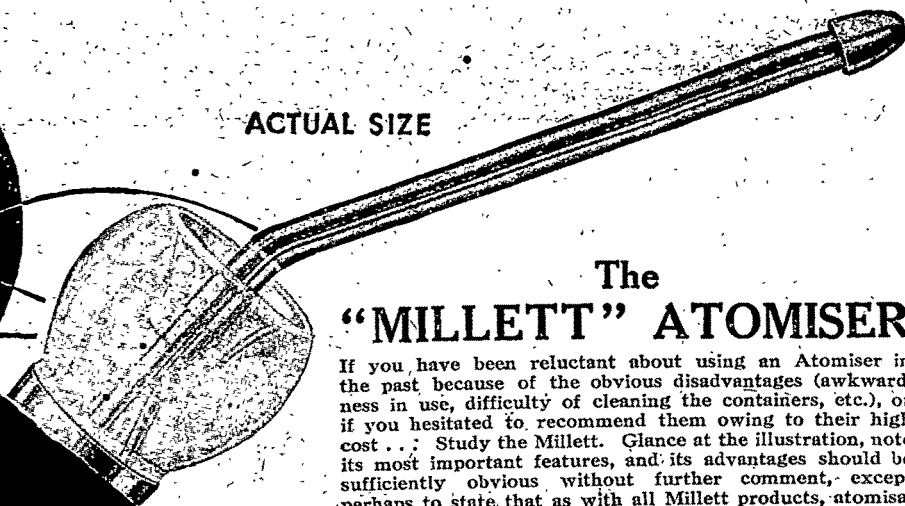
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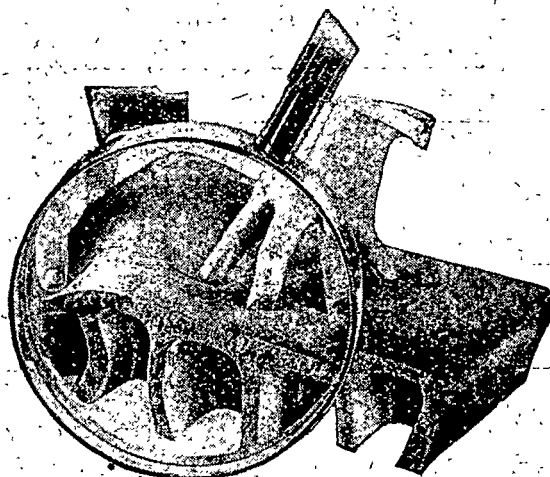
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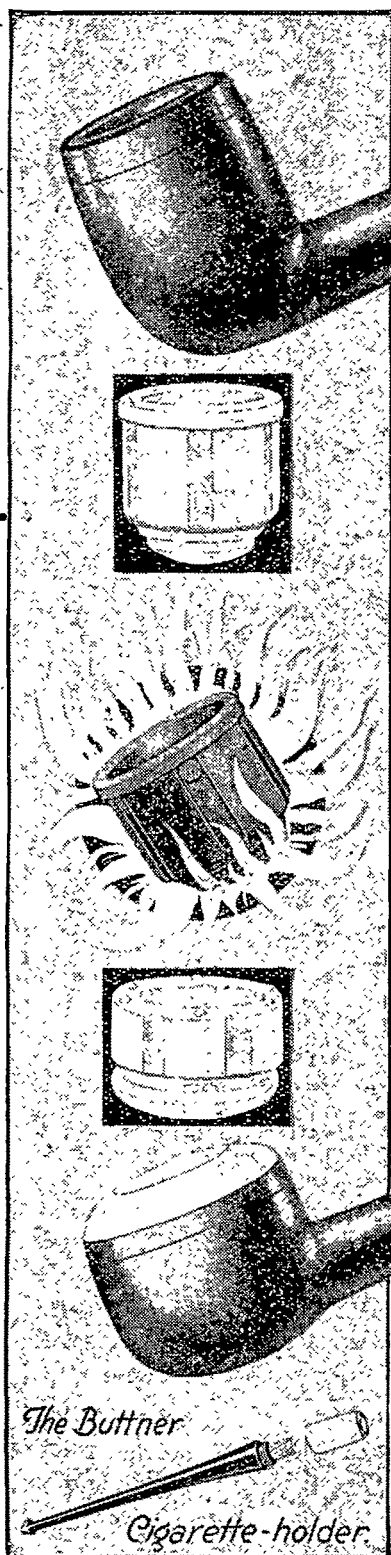
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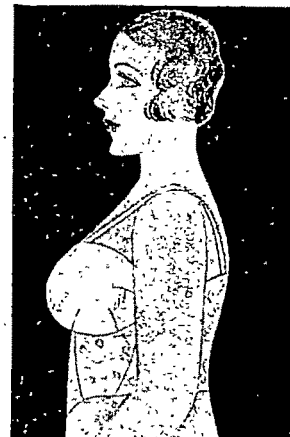
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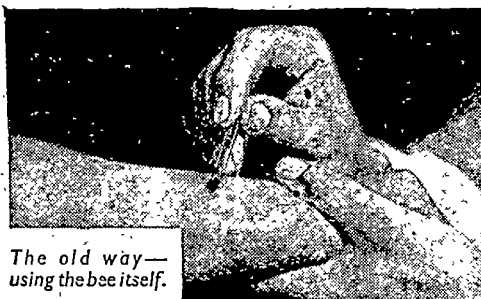
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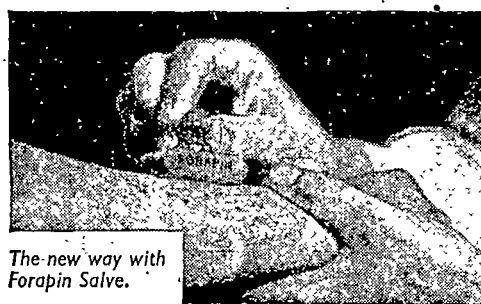
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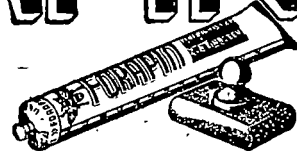
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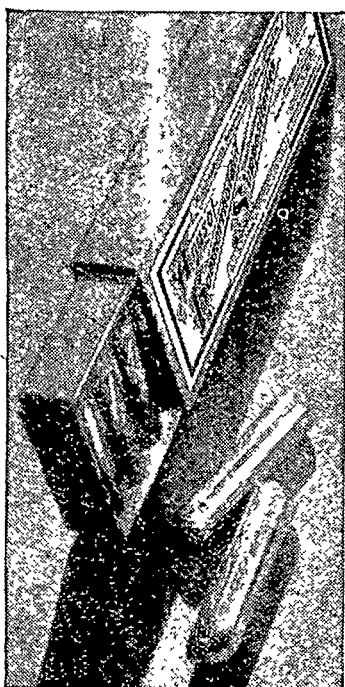
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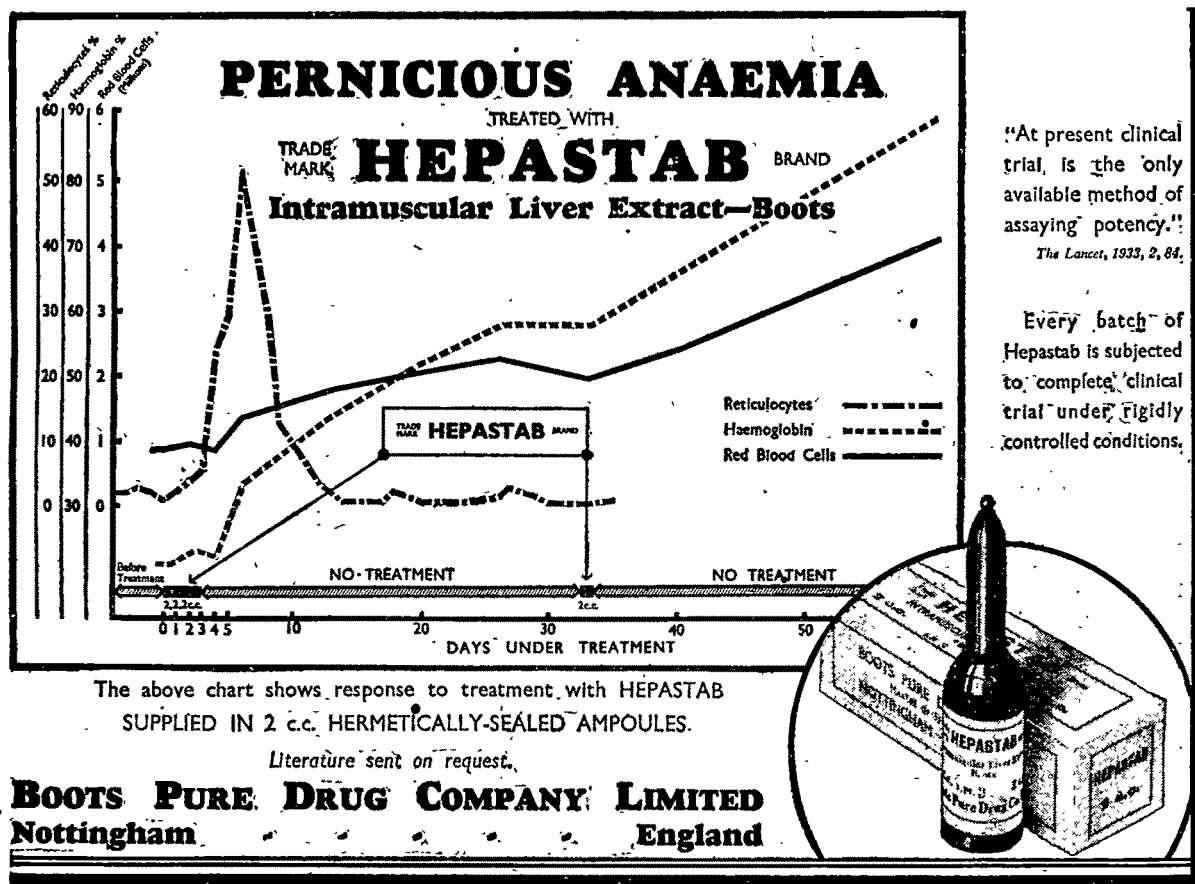
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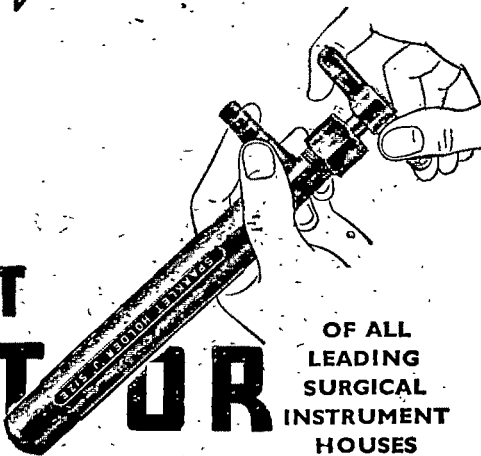
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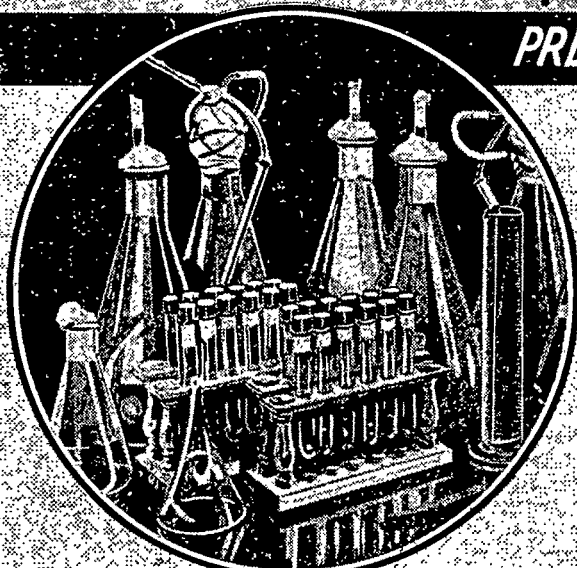
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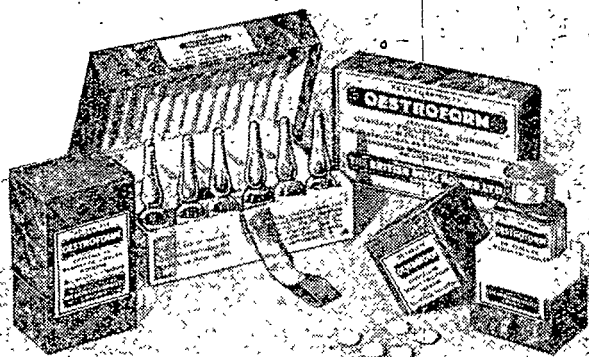
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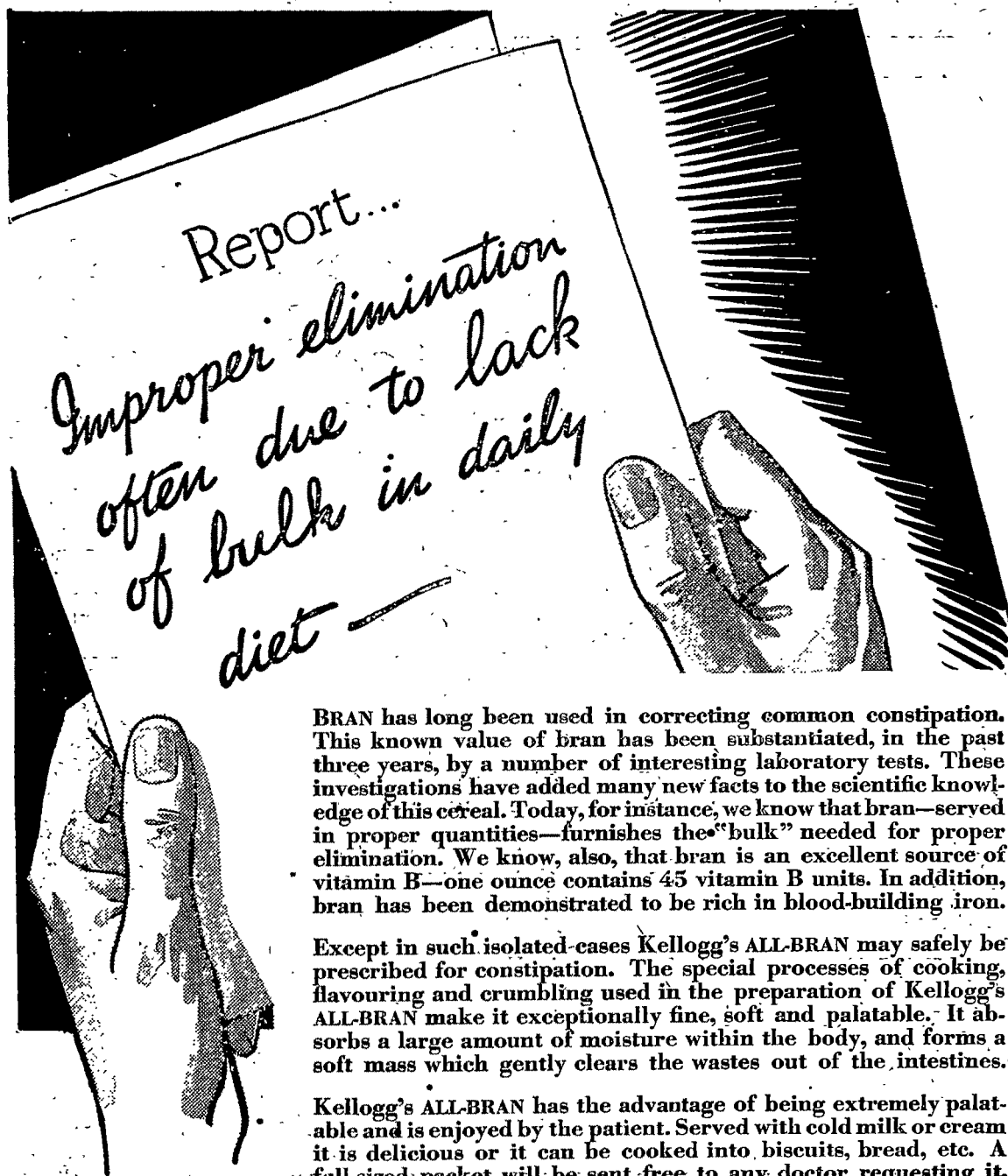
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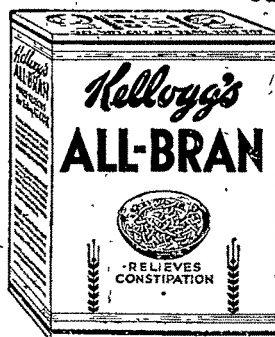
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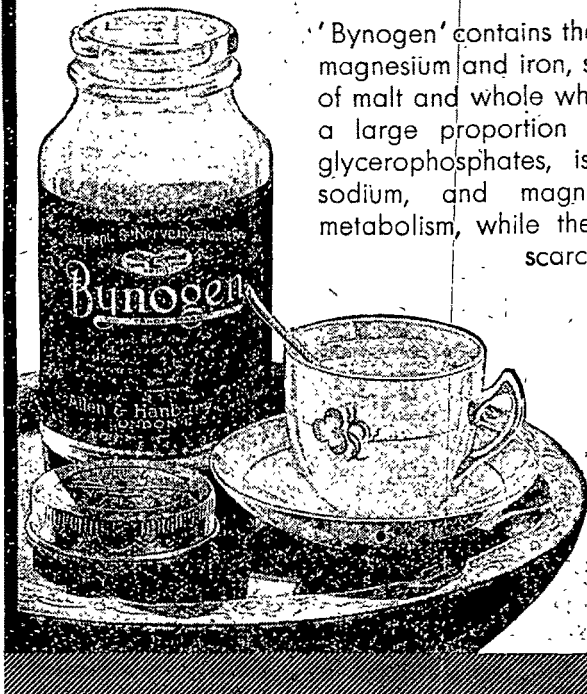
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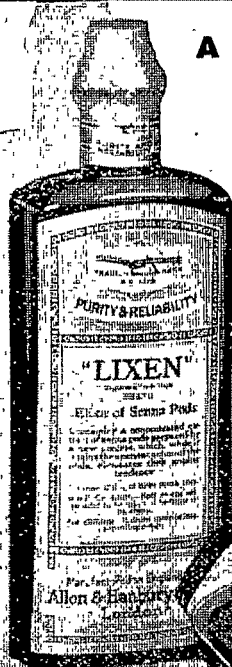
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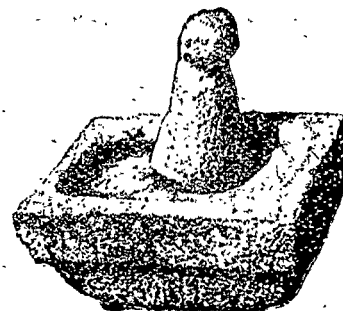
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BRITISH MEDICAL JOURNAL

LONDON: SATURDAY, OCTOBER 20th, 1934

The Harveian Oration

ON

"INVENTIONS AND THE OUTLOOK IN NEUROLOGY"

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON
ON OCTOBER 18TH, 1934

BY

JAMES COLLIER, M.D., F.R.C.P.

CONSULTING PHYSICIAN AND EMERITUS LECTURER IN NEUROLOGY, ST. GEORGE'S HOSPITAL;
PHYSICIAN TO THE NATIONAL HOSPITAL, QUEEN SQUARE

For us, his posterity, Harvey is the first to pick up the threads of experiment and observation begun by Galen in the correct deductions from his lesions of the spinal cord in frogs and rabbits, continued by Aristotle, and thereafter broken for 1,500 years, and he is styled the "Father of modern physiology." From the manner of his work in experiment and in observation of proofs he is the inventor of modern methods of research. From the law which he laid down of "Omnē vivum ex ovo" he is the starting-point in the idea of evolution. From his inspired flight of thought expressed in the words "Epidemic, contagious, and pestilential diseases scatter their seeds and are propagated to a distance through the air and in hidden fashion silently multiply themselves by a kind of generation" he is the prophet of bacteriology to come. He is the discoverer of the circulation of the blood. To his colleagues and to his patients he was the "beloved physician," and in this College he receives homage upon each St. Luke's Day as its most illustrious Fellow.

Harvey's exhortation to us is "To search out and discover the secrets of Nature by experiment and observation." The first experiment is in a flight of thought; a wandering of the mind which begets a sudden new idea, a flinging away for the moment of all we have taken on trust as gospel, or sometimes an attempt to explain in words to others what we ourselves do not understand, has brought discovery. No one ever made successful experiment but he had already conceived that something would happen from it, nor an invention without the idea as to how it would work. However much Harvey may have denounced mere speculation in others, yet guided by his careful observation it was his primary method of work. He had, surely, a firm conviction that the blood did circulate, and in a certain way before he put his experiment into being. He had surely conceived that the "to and fro," "ebb and flow" movements of the blood, which had been gospel since the time of Galen, could not be, and was driven by dissatisfaction to make his great discovery.

There is no method in discovery; sometimes there appears to be a high element of fortunate chance. Great knowledge is not always essential; at times it seems a hindrance to personal progress, for much of a very wide knowledge is of necessity taken on trust without even reasonable personal analysis. A castle built in the air by a highly knowledgeable fancy in the course of a week-

end of leisure, and a lifelong plodding with microscope and stains, have both on occasion brought an equal advance in medicine, though the labour entailed in the two events is so unjustly different. It is remarkable that in former times, when knowledge of medicine was scant, the pioneers, in expressing their brief views upon physiology and disease, and particularly in teaching their pupils, gave explanations that would sum up in a nutshell our accepted knowledge of the present day after a century of discovery and proof. Such flights of thought, such lucky hits upon the real truth are, I submit, dismissed by posterity as dreams without discovery and without appreciation of their greatness. They are in reality potential discoveries not followed up, probably from lack of continuing interest, certainly from the lack of methods and of knowledge as to how to find proofs. In attempting to hold your interest upon inventions and their effect on the progress and present outlook in neurology, I shall draw your attention to several prophetic flights of thought, all of which were great, and some of which resulted in important advances in knowledge.

I have chosen the word "invention" as best fitting the bringing in of a new idea—an invention of the mind, which may prove to be a discovery of the truth or may fail as a false hypothesis—as well as the bringing in of a demonstrable fact or of a new method. Wonderful inventions for the study of the structure of the nervous system and tireless research have resulted in knowledge, practically complete, of the most intricate and marvellously beautiful network, with input paths leading from the outside world and output paths leading to the muscles for action, almost incredible in its extent, everywhere continuous, and so complicated that it is impossible to prove or to conceive how it works except in a few of its lower and grossly mechanical regions. This vast and solid edifice of proved knowledge of structure has added little to our knowledge of function and disease. But it is a very important little, for it is all we have, and it is concerned with the lower and more grossly mechanical regions of the spinal cord and brain stem. This quarry has been worked out, and labour in it has well-nigh ceased. Delving into the function of the nervous system by experiment has reached so high a refinement that the signals by which each part works can be made visible and audible. Always the same signals in every part alike, only more and more rapidly repeated as the message becomes stronger and more urgent, and the end-result of these fine labours is

some knowledge as to how the lower and simpler regions—namely, the spinal cord and the brain stem—work. To the greatest of living physiologists who has spent a long life in the experimental study of the nervous system, the Rede lecturer for last year, Sir Charles Sherrington, the highest and largest part of the nervous system, the brain, is still mainly a form and a series of events, and his ignorance of much of their relation bids him despair. Yet proclaiming himself an optimist, as opposed to a defeatist, he puts the question: "Will it ever be possible to understand the nervous system?"

In the recognition and distinction of the nervous diseases the past century has brought an ever-increasing and now almost complete knowledge, which does not yet, and will not, reach finality, for disease is subject to evolution and devolution and disappearance at least for a time. The causation of many of the diseases is now clear, and in recent years studies of biochemistry and virus infection have brought suggestions of what the future may discover in maladies of which we do not know the cause. Methods of treatment, though far behind those of diagnosis, are advancing, and at the moment we seem to be in possession of means of diagnosis and treatment which will surely remove the terrible diseases general paralysis and locomotor ataxy from the community. Yet the fact remains that the four most prevalent and relentless of the nervous diseases—disseminated sclerosis, progressive muscular atrophy, paralysis agitans, and most of the vascular diseases—come before us without any clue as to their cause, and without any means whatsoever of their prevention, nor even, as in the case of progressive muscular atrophy, of the slightest amelioration.

Cerebral Localization of Function

The means by which invention begins, the arousing of that lasting interest which does not rest until discovery is made, is often intangible and a thing per chance and of personality, but sometimes it has been recorded, and I may introduce the great discoveries in neurology with an instance. At the end of the eighteenth century a self-conscious lad pondered upon his disability promptly to answer in class the things he knew well, and concluded that it was because nature had not given him a fine forehead and prominent eyes. His interest in the brain and speech never thereafter left him. He became a very great anatomist of the nervous system, and he proved, by his dissection, the definite structural path from brain to muscle partly crossing in the medulla—the pyramidal path—and his proof was then and there accepted by the knowledgeable-world for all time. Like Harvey, he was not the first to perceive this, but, like Harvey, he gave such proof of its truth that no one wished to deny it.

Gall's discovery of a definite pathway conveying movement from brain to muscle was the foundation of all subsequent work on the paths of function within the nervous system. In his early days he laid down the truest conception of the brain as the exclusive seat of the highest nervous functions only. By his conception of speech as a function of the forward part of the brain he was the originator of the idea of localization of function in the brain. It does not detract from the greatness of the discoveries of this remarkable man that he went over to phrenology and died discredited, torn from his high position by the prophetic denunciation of Flourens that there are no separate highest functions to be localized in the brain, but that all are interwoven. Round Gall's conception of cerebral localization such a war was waged during the nineteenth century—complete defeat at first, then, after years, complete triumph, and later, defeat not yet complete—as has stimulated more investigation and produced more useful discovery than any other event in

the history of neurology. At the moment the localization of function in the brain is presumed by our physiologists, but admittedly without means of scientific proof. The only proved localization of function is that of the conduction tracts—the input and output paths which connect the animal with the outside world.

Invention of Histological Technique

In 1835 Purkinje, an Austrian priest of gipsy family, became possessed of a microscope. In a short space of time he had discovered the nerve cell, and this discovery, added to that of Gall of the nerve tract, was the instigation of all later work. He had invented a hardening reagent, bichromate of potash, which would allow sections of soft tissue to be cut; a machine, the microtome, to cut the sections; a stain, carmine, which would bring out the details; a clarifying reagent, oil of cloves, which would make microscopical examination possible; and a method of making permanent preparations with Canada balsam. Purkinje's work was epoch-making in the progress it caused. As the fruits came at once the establishment of the cellular theory of tissues from Schleiden and Schwann, and the cellular pathology of Virchow. Rosenthal demonstrated that the nerve tract was made up of fibres springing from the nerve cell, and Schwann found the insulating sheath which protects the nerve fibres. Waller, by his methods of degeneration, commenced the tracing of the nerve tracts within the nervous system.

Thereafter, with the wonderful discoveries and patient work largely of the German School, in which the names of Weigert, Edinger, Cajal, and Golgi are prominent, the structure of the nervous system has been made known with such delicacy of detail, such intricacy of connexions, such enormity in amount, as to be altogether outside the possibilities of present-day comprehension of the relation of structure to function except in its lowest and least complicated regions. It is referred to nowadays as one entity, "the nervous network," just as it was first named the "sensorium commune" a century and a half ago.

Discovery of Reflex Action

In 1784 a professor of anatomy in Moravia wrote a very short account of the nervous system, and in attempting to explain how it worked said that "physical and mental stimuli acting upon ascending nerves are conveyed directly through the ganglia and network of nerve threads, to be reflected thence by means of descending nerves with a result in action." This wonderful discovery in thought of reflex action, arrived at so far as we know without definite experiment, is the foundation of most of what we now know concerning the way in which the nervous system works. I will ask you to compare these words of Prochaska with those of Sir Charles Sherrington in the Rede Lecture for last year: "Brain and nerve are but a skilfully laid train of powder between the muscles it fires and the restless world outside which fires it. The question, who pulls the trigger, is easily answered. It is the outside world." And again: "An animal's motor behaviour where the brain nets are large excels in variety and nicety, but it fails to offer anything radically different from reflex action elsewhere." By actual experiment Sir Charles Bell at the Middlesex Hospital, Magendie in Paris, and others discovered the function of the spinal roots as input and output paths by which reflex action is carried on, and Bell most importantly first conceived of the long reflex processes which went as high as the brain. Now all unconscious action is reflex action. The great Pavlov and others have shown us how large a part reflex action plays in conscious action and behaviour.

It is when we arrive at those processes in the brain which are not traceable to outside stimuli and cannot be reduced to the principle of reflex action that our knowledge of the working of the mechanism fails rapidly and finally. I may perhaps give you a simple example of the utter dependence of high cerebral function upon a reflex process. When I speak to you my speech does not flow out from well-trained speech centres in the brain as does water from a full cistern. I must have an immediate and delicate reflex return reaching me by my ears and by the sensation of movement of my lips, which keep me instantly informed as I go along that what I am saying is in correct pattern. If anything blocks the path of both those reflex actions I shall not be able to finish even a sentence, my speech, though long practised, will break down at once into an inarticulate jargon in which both words and pattern disappear. If through a faulty attention to my reflex signals I miss out an important word, my meaning tends to become unintelligible to my listeners and my speech an imperfect function.

The Hypothesis of Nervous Function

Hughlings Jackson, who is the pride of English neurology as Harvey is of English medicine, greatly influenced and moulded the present position of neurology. In method he was the ablest deducer from what seemed to be the minimum of observation, but his chief genius was that he was a relentless dreamer, who criticized with a positive inquisition all his flights of thought, and apparently only gave to the world those which survived this ordeal, for there is hardly a thing of his which has not borne the test of time. He conceived that Nature had builded the nervous system upon the same pattern of function in its several parts: that, at the lower stations, the local requirements of the individual segments of the body were looked after, but that, at higher levels, the requirements of everything below were subserved in increasingly compound proportion; and that, at the highest levels, the nervous system was concerned with the requirements of the animal as a whole—perhaps some of these concern some parts of the brain more than others.

This remarkable conception, which arose when popular belief was convinced that centres for separate functions in the several parts of the brain were ascertained facts, is substantially the proved knowledge of the present day. The supporters of the belief in local centres of function in the brain had forgotten their parent Gall, and the simple but emphatic statement by which he was overthrown: "There are no such separate functions for localization." I may perhaps put it like this: the functions of seeing, hearing, and feeling are clearly separate so far as the nerve terminations in the eye, ear, and skin are concerned, but when a stimulus from one of these organs reaches the nervous network it becomes modified by all the other stimuli which are in coming at the moment, and the higher in the nervous system it spreads this modification increases, so that it becomes more and more difficult to think or to speak of it as a stimulus in one isolated function such as vision, hearing, or feeling. Hughlings Jackson wrote: "I cannot conceive any function of vision apart from the function of movement."

It seems clear that the local loss of function which one sees daily from lesions of the brain is the result of the blocking of the input and output paths, and I have arrived at the conclusion that when mental defect occurs from a not-too-extensive local lesion of the brain it results from a block upon those important tracts which put the several regions of the brain in touch with one another, and never from lesions of the higher regions of the brain, which were formerly supposed to subserve mental functions exclusively. Therefore we have now the

vast expansion of the brain, in the words of Sherrington, "as an input and output signalling system which is newly arisen as a gigantic combining mechanism for the signals from the outside world and as a dominant part of the nervous system which tends to deal with the requirement of the animal as a whole more than does any other part."

Locomotor Ataxy and Peripheral Neuritis

One of the most remarkable discoveries in the flight of thought, and one which became a proved principle a century later, came from the distinguished founder of King's College Hospital, Robert Bentley Todd, in an attempt to explain lead paralysis to his pupils. He said: "I believe that the muscles and nerves are early affected, and that at a later period the nerves centres may become implicated. The nervous system is thus first affected at its periphery in the muscles and nerves, and the poisonous influence, continuing the contamination, gradually advances towards the centre." Recently it has been shown by Aub and others that in lead paralysis accumulation of the lead occurs first in the affected muscles, and that the poison seeps up through the nerve endings into the nerves, and reaches the central nervous system. It is now generally accepted that the nerves are protected by their fatty sheaths against the advent of poisons and infections everywhere save where the nerve endings are exposed in the extreme periphery, and that it is only in these exposed terminals that noxious agents can gain access, and that they travel by a process of seepage along the nerve filament to gain the central nervous system. Viruses that affect the nervous tissues travel in the same way, and seemingly spread universally. As the only nerve terminals exposed to the outside world are the olfactory terminals in the nose, it follows that virus infections of the nervous system must be acquired by droplet infection of the nose or by wounds which expose the nerve filaments to infection.

Dr. Todd, who was by far the greatest clinical neurologist Britain had produced until the time of Hughlings Jackson, was the first to begin the breaking up of the spinal diseases, at that time all classed as "paraplegia," by his discovery of locomotor ataxy as a distinct clinical entity. He did this with his usual vivid imagination and his customary absolute faith in his own powers of clinical and post-mortem observation. He stated that the antero-lateral region of the cord was the path for common sensibility, and that the cerebellum was the organ commanding position and posture, and that the posterior columns were subservient to the cerebellum in conducting to it peripheral impressions of position for its guidance, and he made the separation for the first time between spinal paraplegia and spinal ataxy. Todd wrote this four years before Romberg wrote his work, eight years before Russell Reynolds described the disease as "muscular anaesthesia," and eleven years before Duchenne christened it "progressive locomotor ataxy."

Lumbar Puncture

In the year 1891, and in a quiet way, came an experiment which slowly led to the most astounding progress in our knowledge of nervous disease and of its diagnosis, differentiation, and treatment. No event in the history of neurology has brought so many assets as has the introduction of lumbar puncture. Quinke of Magdeburg conceived that he might relieve the symptoms of hydrocephalus by draining the cerebro-spinal fluid. Six years previously Corning in America had drained the fluid for the treatment of tuberculous meningitis, but Quinke was the first to make his work known throughout the world. The discovery of changes indicative or characteristic of certain diseases in this hitherto unimportant

fluid soon followed, and lumbar puncture has become a routine in diagnosis and treatment.

It has given us the means of speedy relief from the agonizing pain and danger of increased intracranial pressure, the cure of epidemic meningitis, of cerebral uraemia, of bromide and barbitone poisoning, and it has given us spinal anaesthesia. It has led to the discovery of the clinical features of meningeal haemorrhage and its common cause in leaking aneurysms, to the easy recognition of the many forms of meningitis, and gives definite indications of prognosis in the sugar, chloride, and cell content. Pressure upon the spinal cord and occlusion of the cerebro-spinal space are now easily ascertained by the increased protein in the stagnant fluid, and the exact site of the pressure can be made visible by the injection of lipiodol, which is opaque to x rays. By the constant discovery of changes in the protein content of the cerebro-spinal fluid and by the presence often of large numbers of cells therein, our whole conception of peripheral neuritis has been changed from that of an affection of the peripheral nerves to that of a malady creeping upwards along those nerves into the roots and central nervous system. Lumbar puncture has shown that spirochaetal infection of the nervous system occurs at quite an early stage, and this infection often dies out. Those subjects in whom signs of infection persist in the cerebro-spinal fluid are alone liable to the advent in after years of general paralysis and locomotor ataxy, and in the early treatment of such patients with malarial infection, mercury, and arsenic we have, we think, a certain means of stamping out altogether these terrible diseases from the community.

The "Encaged" Virus

Von Economo in 1921 conceived of a virus which, gaining access to the nervous system by the exposed olfactory terminals of the nose, becomes an "encaged" virus within the nervous system with no means of getting out, and which, if not conquered by the natural processes, might remain indefinitely to cause either recurrences of symptoms from time to time or, alternatively, progressive degeneration and death of the nerve elements. On this hypothesis he would explain the varying results of lethargic encephalitis—now a permanent cure, now a series of recurrences, and often again an advancing and resistless break up of nervous function long after the initial infection and when the primary symptoms had been slight. He would explain the absence of case-to-case infection in lethargic encephalitis and in poliomyelitis as due to the fact that the virus is encaged by the time the symptoms appear and cannot get out to infect others.

Infection can only occur from carriers and in the pre-symptomatic period of these diseases when the virus is a surface saprophyte in the nose. Nicolau and Galloway at the Pasteur Institute have shown how the viruses infecting the nervous system travel along the nerve threads to the remotest parts of the nervous system, and that any peripheral nerve twig, if dissected out and placed in the nervous system of another animal, will cause infection. In the course of the universal spreading of the virus the remarkable brightly staining "inclusion bodies" in the nerve cells and the lymphocyte exudations along the nerve fibrils remain as evidence of its passage. This complete invasion of the nervous system may occur without producing any symptoms at the time.

In the case of one encaged virus—that of herpes zoster—it seems clear that a local lowering of vitality of part of the nervous system by reason of injury, exposure to cold, arsenic administration, and other causes, breaks the encagement, and the virus discharges outwards along the debilitated nerve to flower upon the skin in the characteristic shingles, and that flowering upon the skin is the

only means of continuing the species and infecting other members of the community. After that flowering the virus within the nervous system dies as does the annual plant in the garden after its flowering. But it may happen that the debilitated nerve along which the virus is able to discharge is a motor nerve, in which case the virus is unable to flower. It may, however, give rise to much commotion with lymphocytic swelling in the nerve, and this is undoubtedly the cause of many of the motor nerve paralyses for which we have hitherto had no causal pathology, the commonest being Bell's facial paralysis from exposure to cold. Von Economo's principle of an infection encaged within the nervous system, existing and producing changes, without causing symptoms or alteration of function perhaps for years, and finally destroying, is likely to bring important developments in the future. As a clinical fact it has been known for long years in the end-results of spirochaetal infection, unrecognized at its advent and symptomless perhaps for half a lifetime.

That disseminated sclerosis never appears before the age of puberty means, I submit, that it takes fourteen years or more for the pathological process to run before symptoms occur. A single transient characteristic sign of this disease, lasting but a few days, often appears as long as twenty-five years before the progressive relentless disability begins, and I suggest that the process of demyelination is all over and irretrievable as soon as the progressive symptoms are present. We are faced with the inevitable scarring which long progressive and symptomless demyelination must entail. We must find some means of detecting the subjects of this disease during the symptomless stage if we are to treat them successfully. It is a remarkable fact that while disseminated sclerosis affects the central nervous system indifferently and everywhere, its destructive potentiality falls upon the younger elements of the nervous system only, those that have been recently acquired—namely, the pyramidal path, the co-ordinating mechanism for the upright stance and the finer movements of the hands, and for the recently acquired function of speech. The older functions of the special senses with touch, pain, and temperature are never progressively destroyed.

Louping-ill in Sheep and Benign Lymphocytic Meningitis in Man

Recently accident has revealed a principle which may have an important bearing upon neurological discovery in the near future. A virus expert was working at the Lister Institute upon the disease of sheep which is called "louping-ill" or "staggers." This is a virus disease, which, entering by the usual nasal route, passes along the nerve threads to the cerebellum, and there kills every nerve cell while leaving the rest of the nervous system entirely unharmed. One day this pathologist became severely ill with acute meningitis, which was supposed at first to be tuberculous, but from which, however, he made a complete and rapid recovery. He went to America to carry on his researches upon louping-ill. Shortly afterwards two of his co-workers and two of his laboratory assistants were seized with severe acute lymphocytic meningitis, from which they rapidly recovered, and it was proved from the serological reactions and by infection of animals that the recoverable meningitis in man was due to the same virus which caused destruction of the cerebellum in sheep.

The principle is that an infection in an animal which gives rise in that animal to a definite and incurable disease may produce in man an entirely different and curable disease. We already had this principle demonstrated in the opposite sense in the virus of herpes febrilis, which in man produces an insignificant event but

when introduced into the rabbit is apt to produce a fatal inflammation of the nervous system. Nervous diseases are common in animals, and it is to the closer association of veterinary and human neurology, and the wide investigation of the two together, that we look with hope to the discovery of cause and treatment in those common nervous diseases which are at present entirely mysterious.

Toxic Absorption and Neurology

The origin of disease and of tissue degeneration as the result of toxins from bacterial infection has entirely dropped out of neurology, except in the cases of the three exotoxins of tetanus, diphtheria, and botulism, which differ entirely from the elusive factor in what is commonly referred to as toxic absorption, in that they are real, they can be isolated and put in a bottle, and their effect proved by experiment. A few years ago the origin of pernicious anaemia and of subacute combined degeneration of the spinal cord in toxic absorption from intestinal infection seemed to have good foundation on clinical and experimental grounds, but subsequent discoveries in gastric and hepatic function have swept all such ideas away, and have introduced a deprivation origin for these diseases with highly successful means for their prevention and amelioration. Toxic absorption, at present much spoken of, will probably be similarly discarded from other realms of medicine within reasonable time.

It is highly interesting that the exotoxin of tetanus, by entering into combination with the protoplasm of the nervous system, does produce a train of events identical with that of the virus of hydrophobia, by living within the nerve protoplasm; in one case the highest degree of overfunction in the fatal spasm, in another a complete loss of function in the toneless paralysis just like that of severe peripheral neuritis. It is probable that the many conditions of peripheral neuritis, at present without known cause and which seem to be increasingly common among us, may be due to virus infection, and the relapsing tendency after partial recovery is like the behaviour of an encaged virus. The difficulty in this investigation is the discovery of a susceptible animal, without which we cannot find or prove a virus as the cause of disease.

Deprivation conditions are likely to prove a fruitful field in the development of our knowledge of the causes of nervous disease. We have already established that tetany, subacute combined degeneration, beri-beri, and pellagra are due to known deprivations. The pigeon fed on polished rice, and therefore paralysed almost to death, which can be restored to complete strength and action in an hour by the administration of a few drops of infusion of rice husk, is a miracle of the effect that vitamin shortage and vitamin administration can make within the nervous system. It has recently been suggested that disseminated sclerosis may prove to be a deficiency disease.

The recent discovery of Sir Henry Dale that efferent stimuli in the vegetative nervous system produce their effect by the liberation of a chemical intermediary of the choline group, and that stimulation of the sympathetic in otherwise denervated skeletal muscle results in tonic contraction, seems to me to open up the possibilities of great advance in our very scant knowledge of the pathology of the myotonias, myasthenias, and myopathies.

In the progress of neurology the all-essential labours of the physiologist and of the anatomist have almost reached finality. Much addition to the wealth of their discoveries is not to be expected in the future. The bacteriologist, similarly, seems to have added all that is possible from his researches. Not even the absorption of hypothetical toxins troubles us as a factor in the causation of nervous

disease. The clinician and his inseparable pathologist have at the present time a fertile field where regional diagnosis has become well-nigh perfect in which to carry on the separation begun by Thomas Parkinson a century ago, and to show the easy recognition of new and distinct nervous diseases. Thus the thirty years of the present century have given us subacute combined degeneration, dystrophia, myotonia, amyotonia congenita, epiloia, Schilder's disease, narcolepsy, the meningeal haemorrhages, the cerebral aneurysms, the many pituitary syndromes, and other distinct and easily recognizable maladies. It is astonishing how much more common a malady becomes when it has once been well described. There is scope for a rich harvest in the future, especially in the realms of peripheral neuritis, the muscular atrophies, and the vascular diseases. The virus worker and the biochemist have probably the greatest immediate future before them, heralded by their collection of the plums of the immediate past in their researches on poliomyelitis, tetany, pernicious anaemia, and insulin. The closer association between botanical, veterinary, and human medicine which has made a beginning will, I think, have an outcome in much advance, for nervous diseases are common in animals, and have not received sufficient attention.

The psychiatrist struggles with his most difficult burden of advance almost alone. The anatomist, physiologist, bacteriologist, virus worker, and biochemist have not, as yet, done anything material to clear the path for his progress as they have for the neurologist. Just as the highest functions of the nervous system allow of no physiological or anatomical analysis, so do its disorders at present admit no pathological and causal conception. The primeval forest of psychiatry, with no pathways cleared to look around, is hard beset with an ever-growing jungle of intricate terminology. The progress of neurology in my lifetime has been amazing, and its present position is highly advanced for a civilization which Sir Grafton Elliot-Smith insists is not yet sixty centuries removed from primitive man. And yet I doubt not that neurology has but made a highly successful beginning.

In his Harben Lecture on "The Diagnosis of Small-pox and the Investigation of Vaccinia by Laboratory Methods," delivered before the Royal Institute of Public Health on October 8th, Professor W. J. Tulloch, M.D., laid down five points which should be emphasized to members of the medical profession, and by them to the public. (1) Vaccination gives complete protection against both small-pox major and small-pox minor for several years, and partial protection for the greater part of the span of life. (2) The real value of the procedure as far as the individual is concerned is that it protects against small-pox major. So far as the community is concerned its value as a protection against small-pox minor is not unimportant, for the control of the minor malady is sometimes rather costly to local health authorities. (3) There is a potential danger at least that small-pox major may gain a footing at any time in this country. (4) We owe a debt of gratitude to the neighbouring countries which do enforce compulsory vaccination. It is significant that this measure is rigidly enforced in those European lands—Bulgaria, Czechoslovakia, Austria, and Hungary—whose geographical position is such that the disease may be introduced from the East. (5) The danger of grave complications following vaccination, notably encephalitis, is very slight when the procedure is performed early in life, but it is by no means negligible when primary vaccination has perforce to be carried out during the school years. In the absence of universal and compulsory vaccination, accurate methods of diagnosis in doubtful cases constitute a valuable addition to our armament for limiting the propagation of the disease.

IMMUNIZATION IN THE PREVENTION OF SPECIFIC FEVERS*

BY

R. A. O'BRIEN, M.D., D.P.H.

From a recent paper I note with some, perhaps forgivable, tendency to a breach of the tenth commandment that when Dr. W. H. Park in New York wishes to compare the relative values of different methods of immunization—for example, by toxoid, given in different doses at different intervals, and with or without the addition of alum—he first investigates the problem, as we do, with laboratory animals, and then repeats the same investigation simultaneously on large groups of comparable children in schools—an opportunity which we in England can regard but with envy. Our English evidence has more of the "before taking" and "after taking" flavour.

Immunization in Diphtheria

Dudley recently recorded that before active immunization there were at the Greenwich School about forty-three cases of "diphtheria" each year, while in a comparable population, after immunization was adopted, the notified cases of diphtheria averaged eight each year for five years; of these cases only eight were clinically recognizable as diphtheria, and in six of them the boys were not yet inoculated. Our own endeavours enabled us to say that from 1921 to 1932 we had kept almost entirely free from diphtheria a school of about 600 children in which twenty cases had recently occurred. Similarly, it has been possible to keep the nursing staff of a large hospital almost entirely free from diphtheria for some five years, without causing any interruption of duty owing to reactions. Two years ago Dr. Parish showed that with toxoid he could produce within about six weeks a state of complete Schick-negativity in 95 per cent. of children in a home, and an appreciable immunity in another 5 per cent.; thanks to the Moloney-Fraser intradermal toxoid test immunization could be carried out without interference with school work. Those who wish to consider what has been done in England will find the details abundantly recorded in Dr. Forbes's book.

If we look at the recent past we find that reasonably good immunity was obtained by the "mixtures" toxin-antitoxin or toxoid-antitoxin, and the first sound evidence that immunization on the large scale was practicable was provided by these prophylactics. At present the "mixtures" are gradually losing favour, except toxoid-antitoxin floccules (T.A.F.), which apparently contains "pure" toxoid precipitated with serum globulin and is free of other "non-specific" substances. At all events, it very rarely causes "reaction," and is the antigen of choice for people who show a positive Moloney-Fraser reaction.

TOXOID AND ALUM-TOXOID

Toxoid alone is being more freely employed all over the world, and on the large scale in Canada. In Europe and the U.S.A. it has been found to make well over 90 per cent. of Schick-positive reactors negative when given in three, or even two, well-spaced doses. Toxoid is apt to cause troublesome local reaction, except in very young children, but this tendency is being circumvented in several ways. Some workers administer a full dose of 1 c.cm. to all children under 5, and at this age troublesome reaction is rare. For older children the Moloney-

Fraser intradermic test may be applied: the full dose of toxoid is injected into the Moloney-negative reactors and T.A.F. into the Moloney-positive. A good plan is to give what we have called the "universal" dose to all children—for example, 0.1 c.cm. or 0.05 c.cm. Dr. Chesney of Poole injects all children with a small "detector" dose to identify those likely to suffer reaction after inoculation. Toxoid combined with an immobilizing agent—for example, alum—is also being much used. Innocuous tapioca has been demonstrated by Ramon to have the same property—that is, of causing a retention of the toxoid locally over a long period. Glenny and Buttle showed that the tissue at the site of inoculation when excised some days later and injected into another animal immunized this second animal, and recent American evidence indicates that toxoid may be present in the local "lump" for a much longer period, during the whole of which it is being slowly absorbed and is producing immunity.

What of the future? Alum-toxoid—a discovery made by Glenny, Pope, Waddington, and Wallace—has recently attracted the deep interest of the medical public: the antigen has proved of remarkable service in animal immunization in the laboratory, but I am not yet wholly convinced that it will, for human immunization, displace formol-toxoid, which in two well-spaced doses immunizes rapidly. Apparently in certain "sensitive" children there is a liability to reaction due to the remaining non-specific materials present in the toxoid, as well as the tissue reaction or induration caused by the foreign body, alum, or a complex, alum-toxoid. In the U.S.A. special regulations have been framed for ensuring the potency and other requirements of alum-toxoid, but it is understood that the possibility of a reaction is giving the responsible authorities some concern. C. G. Pope has tested intradermally and subcutaneously in guinea-pigs a number of precipitated toxoids kindly supplied by American colleagues and in wide clinical use. While the tendency of different preparations to cause local reaction in the animal varies considerably, the evidence does not suggest that the American preparations provide better results in this test than some of our own, which seem to be attended by an undesirably high incidence of reaction in the limited number of human observations hitherto open to us. These persistent "lumps" and rare "sterile abscesses" still disturb the picture. C. G. Pope has recently carried out a long examination of the phenomena which happen when various percentages of alum are added to toxoid under different conditions, and has prepared precipitates with a minimal content of alum but a very high toxoid content. The work is promising, and is being pursued.

If we had clinical opportunities we should much like to test whether we can immobilize toxoid for a sufficient period in the tissue with substances less irritant and more absorbable than alum, which would slowly release the toxoid and maintain antigenic stimulation for a sufficient period.

SPECIFIC AND NON-SPECIFIC SUBSTANCES

What are our further aims? When the diphtheria bacillus grows in broth there are finally present at least three substances, or groups of substances, which must be dealt with before the ideal immunizing prophylactic can be prepared:

1. The first is specific toxin. This, as we know, can be turned into harmless but antigenic toxoid by various agencies, the most convenient of which is formalin, producing the well-known toxoid called "formol-toxoid," or, on the Continent, "anatoxine."
2. Secondly, there are a large number of "non-specific" substances—for example, various proteins, amino-acids, salts,

* Read in opening a discussion in the Section of Public Health at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

etc.—in the original broth, and also others of the kind produced by the metabolism of the growing diphtheria bacillus. Many attempts have been made to get rid of these substances. By precipitation, by dialysis, etc., most of the nitrogen can be removed. My colleagues, Mr. Pope and Miss Llewellyn Smith, made toxoid containing only 2 per cent. of the original nitrogen per Lf unit. By modification of the alum method of precipitation, elimination of nitrogen-containing bodies can be carried still further.

3. Thirdly, it almost appears as if the diphtheria bacillus, when building up molecules of specific toxin, gives rise to, as part of the same molecule, another substance undestroyed by heating, which in certain individuals causes the well-known "pseudo-reaction." If this supposition is correct we shall not entirely abolish the liability of unusually "sensitive" people to local and general reactions after the injection of any diphtheria prophylactic unless we can deprive the diphtheria toxin molecule of this "pseudo" constituent, for apparently the same substance, or complex, causes the "pseudo" reaction, the positive reaction in the Moloney-Fraser test, or the local reaction in the "anatoxi-reaction" described by Ramon, and the troublesome local and general reaction which may follow the injection of prophylactic. This supposition is reasonable, for the percentages of people showing these three phenomena are related.

When the chemist can make pure crystalline toxin as he now makes ferments and vitamins we can expect more rapid progress. The biochemist is making always "purer" toxin and toxoid. Jensen has prepared concentrated toxoid of high Lf value. C. G. Pope kindly allows me to say that by absorption methods he has recently prepared a toxin with a very much smaller nitrogen content per L+ or Lf than he has ever previously succeeded in doing. Further progress along these lines is eagerly awaited. I believe that until we can eliminate the "pseudo" constituent we shall not bid glad farewell to the local swelling and general malaise which may follow inoculation in certain people. Before leaving this aspect of the subject I may be pardoned for again calling attention to the efficiency of the method of dealing with an institutional epidemic which was described in 1923 (*Brit. Journ. Exper. Path.*, 1923, iv, 29)—that is, Schick-test and swab everyone; immunize immediately the Schick-positive children; and isolate and examine daily the Schick-positive and swab-positive children, for it is in this group that you will catch all the cases of diphtheria. (Within the past twelve months we have a record that diphtheria attacked more than one-quarter of the nursing staff of one moderately large hospital.)

TYPES OF DIPHTHERIA BACILLUS

The interesting investigation of the "gravis" and "intermediate" types by McLeod and his school suggests the question, Will our current methods of immunization secure immunity against all types of diphtheria? Robertson and Marshall in their Manchester work, recorded eight cases of the throat affection long ago described by Harries as "tonsillitis in Schick-negative carriers"; they also recorded one "severe" and three "moderately severe" infections with gravis bacilli in people recorded as Schick-negative (the full immunological data were not reported). Dudley's exhaustive work at Greenwich suggests that the Schick-negative condition produced by immunization with the ordinary prophylactics gives a slightly lower degree of immunity against gravis infections than against mitis, but his conclusion is that, even in infection of the throat of a Schick-negative child, the clinical result is usually trivial. Further, Parish injected a considerable number of gravis cultures, in fatal doses, into more than fifty guinea-pigs which had been rendered Schick-negative by the ordinary prophylactics of various kinds, and found that the animals

were immune. In "field trials" on huge numbers of human beings in America, Canada, and on the Continent, prophylactic made from the classical Park-Williams 8 strain seems to have given adequate protection. We are justified, therefore, in the absence of other evidence, in directing all our efforts at the moment towards an improvement of the type of prophylactic hitherto made from the Park 8 strain.

IMMUNIZATION AND THE CARRIER RATE

Has inoculation any remote effect on the uninoculated? Dudley has recently recorded that, following immunization of part of a group of boys in the Greenwich School, the "virulent carrier rate" rose, and therefore the risk of attacks of clinical diphtheria increased for those not yet inoculated. Dudley, with his characteristic caution, warns against assuming that this phenomenon would happen generally. I was naturally deeply interested in this suggestion. I believe I am right in saying that a similar argument was at one stage urged in opposition to the proposal to introduce antityphoid inoculation in India and elsewhere, and that experience provided no justification for the argument.

We had ourselves, in several instances, watched a small group of people during immunization, and had seen no indication of increased danger to those not yet immunized. I wrote to a number of leading authorities in the U.S.A. asking what their experience had been, and received permission from E. S. Godfrey and W. W. Lee and others to say that they were impressed with the fall which follows immunization, and that, so far as their experience and consideration of American figures formed a guide, they found no evidence that the morbidity or mortality rises even temporarily in a partly immunized community because of the suggested rise in carrier rate among the inoculated. I know that some other leading authorities in the U.S.A. hold the same view. I may here refer briefly to a recent review by Das. It has always been something of a mystery that clinical diphtheria is so rare in tropical countries. The Schick-negative rate is high and the virulent carrier rate seems to be substantial, yet diphtheria rarely occurs among either natives or introduced Europeans. There is no indication that by any laboratory test the bacilli existent in these regions differ in any way from those causing severe and fatal diphtheria in temperate countries. These still remain something to explain.

Scarlet Fever Immunization

In connexion with immunization against scarlet fever, there is, unfortunately, little new to report. Active immunization with a small series of doses of toxin gives high protection against scarlet fever. J. G. FitzGerald (*Canadian Pub. Health Journ.*, 1933, xxiv, 455) found that, since all Dick-positive nurses at the Children's Hospital, Toronto, have been regularly immunized, the incidence of scarlet fever has been from 0.4 to 0.7 per cent., whereas previously it was from 5 to 6 per cent. It will be remembered that Harries and Benson in this country supplied similar satisfying evidence a few years ago.

Several workers have aimed at shortening the tedious course of four or five injections. In 1929 Ramon and Debré (*Compt. Rend. Soc. Biol.*, p. 1035) formalized toxin and injected children. The immunity obtained was moderately good, though the course could not be reduced to less than three injections, and reactions occurred in about half the children. From the absence of recent publications, it may be concluded that the method has not yet established itself. Ando and Ozaki, in the Dairen work, perhaps provide the clue. As the intensity of

formalinization is increased, the toxicity is reduced, but, unfortunately, so also is the immunizing efficiency. Veldee has studied the method extensively, during the past few years. He inclines to the view that formalinization must not be carried too far; unless approximately 500 skin test doses of toxin per cubic centimetre are left, high immunity is not secured, even with three doses and with the addition of alum. Here again it must be pointed out that experience indicates that progress would be more rapid in England if opportunities for immunizing large comparable groups of children were available. R. A. Q. O'Meara and H. J. Parish kindly allow me to say that they have been working with toxin-antitoxin mixture and with floccules as immunizing agents, but the few results available do not yet warrant publication. G. A. H. Buttle has been endeavouring to immunize rabbits rapidly by several modifications of the ordinary methods and by the use of the toxin of unusually high value described by O'Meara, but has not yet obtained results that satisfy him.

Whooping-cough

The work of Madsen in Scandinavia and Sauer in U.S.A. offers considerable hope. Madsen states that of 1,800 people vaccinated 25 per cent. escaped infection, whereas only 2 per cent. of 450 non-vaccinated people escaped. Sauer found that of 380 young children who were vaccinated and suffered exposure not one became infected. An odd feature is that, while Madsen finds that children rapidly become immune, Sauer does not expect adequate immunity to develop for about four months. Jundell in Sweden vaccinates adult volunteers who have had an attack in the past, and hopes in this way to raise the titre of the antibody in the blood, thus obtaining an equivalent of the invaluable "convalescent measles serum" for protection of groups of young children in contact with sufferers from the disease.

General Note

Two thoughts may occur to the practitioner who is interested in this field of work. Reflecting on the resistance of the average parent to vaccination in any form, he will perhaps conclude that if the enthusiast gets his way there will be too much immunization. He must then remember that diphtheria alone causes 40,000 to 60,000 cases a year in England and 2,000 to 3,000 deaths, and that if we adopt Dr. Glover's estimate of the loss of time due to infectious disease in large schools the lost educational time must cost the community a huge sum each year.

The second thought will probably be one of some regret that progress is so slow. The lag is almost wholly on the human side. The immunologist, in England at all events, is always far ahead of the clinical investigator; with greater opportunity of using, under proper safeguards, different antigens on large groups of children, we should progress faster.

G. Serdaris (*Thèse de Paris*, 1934, No. 64) describes the antimalarial campaign carried out in a period of six months in a small area (Rhododaphnia), of the Peloponnese under the auspices of the International Health Division of the Rockefeller Foundation and the School of Hygiene of the Athens Ministry of Health. Although a definite opinion cannot be expressed until the end of three years, the results hitherto obtained have been very good. The number of *A. maculipennis* and *A. superpictus* has considerably diminished, and the splenic index has decreased, while the haematological index has increased. Quinine salts only were used for treatment.

IRRADIATION TREATMENT OF MALIGNANT INTRATHORACIC TUMOURS

BY

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In September, 1927, one of us (F. G. C.), with Dr. Carlyle Potter, published a follow-up of cases of malignant intrathoracic tumour treated by x rays.¹ The results were most discouraging, for out of fifty-nine cases one alone survived. The result in this case, however, was so remarkable that it was impossible to do otherwise than encourage further trial and further development of the treatment. The patient, a young woman aged 25, was under the care of Lord Horder in St. Bartholomew's Hospital in 1923. She was desperately ill with a large mass in the mediastinum, many large glands in the neck, and bilateral pleural effusion. Microscopical examination of a cervical gland showed lymphosarcoma. She still survives in excellent health, and the skiagram is absolutely normal.

The authors of the article were unable to report any prolongation of life, apart from this one instance, and only temporary or no appreciable alleviation of symptoms. In the last few years, however, the results from treatment have seemed to the present authors to be better. Many impressive cases of relief of symptoms have been noted, and also the complete disappearance of the mass in the chest in several instances. It seemed desirable, therefore, to make another investigation into the results of treatment in a series of more recent cases.

Diagnostic Criteria

The first criterion is the proof positive—namely, microscopical examination of a section of the thoracic growth or of a metastasis. This must be accepted as the most convincing evidence, in spite of occasional difficulties of interpretation. The material for examination has been obtained by thoracotomy in seven cases, by bronchoscopy in seven cases (this excludes cases subsequently confirmed by post-mortem examination, otherwise the number would be larger), by removal of a metastasis in five cases, and from post-mortem material in nineteen cases.

The second criterion is clinical evidence: symptoms, signs, course of the disease, and exclusion of other conditions by special investigations. The third is radiological evidence.

It would occupy much space if we attempted to elaborate the last two criteria, nor is it perhaps quite within the scope of this paper. We can say, however, that no doubtful case has been included, and we are confident that the rigid criteria adopted would be accepted by all workers as adequate proof. The few difficult or doubtful cases are described in some detail later.

Our material consists of seventy cases from St. Bartholomew's Hospital, the Royal Chest Hospital, Victoria Park Chest Hospital, and private practice, from 1927 to 1933.

We are indebted to the following physicians and surgeons:

Dr. Geoffrey Bourne, Professor Langdon Brown, Drs. J. B. Christopherson, E. H. Colbeck, E. R. Cullinan, Geoffrey Evans, H. Morley Fletcher, Professor Fraser, Drs. E. A. Gow, G. Graham, Sir Percival Horton-Smith Hartley, Dr. R. Hilton, Lord Horder, Drs. C. M. Hinds Howell, D. Barty King, A. J. Scott Pinchin, Arnold W. Stott, H. E. Symes Thompson, F. E. S. Willis, W. B. Wood.

Sir Thomas Dunhill, Professor Gask, Sir Charles Gordon-Watson, Mr. L. B. Rawling, Mr. J. E. H. Roberts, Mr. H. G. B. Russell, Mr. R. M. Vick.

The cases presented are as follows:

	Cases
1. Bronchial carcinoma treated by α rays	44
2. Bronchial carcinoma treated by radium or radium emanation	12
3. Malignant tumours other than bronchial carcinoma treated by α rays:	
(a) Primary in the chest	2
(b) Secondary carcinoma	5
(c) Secondary sarcoma	2
4. Tumours of doubtful nature	5

In each of the cases treated by α rays at least ten applications were given. In a great number of other cases treatment was abandoned in the early stages of the course, and these have been excluded from this series.

Treatment by Irradiation

It must always be assumed in dealing with neoplasm of the lung that the glands of the mediastinum are involved or are likely to be involved, and must therefore be thoroughly treated. Lymphosarcoma requires a much smaller dosage than carcinoma and endothelioma. Occasionally the early treatments can only be applied from one or two directions owing to the patient being too ill to be moved. Later in the treatment, as the patient improves, other ports of entry can be used. The treatment is spread over two, three, four, or five weeks, and is given on five or six days each week.

Principles of Treatment

1. To give a sufficient dose to the whole growth and to the lymphatic glands likely to be affected.
2. Without restricting the dose on the growth, to give as small a volume dose to the general tissues of the patient as is consistent with efficient dosage to the tumour and lymphatic glands.
3. To damage the lung as little as possible. Lung which has been the site of old inflammation, tuberculous or otherwise, is very radio-sensitive, and exacerbation may result.
4. To cause no damage to the skin beyond a severe erythema, which ultimately clears up. With lymphosarcoma only a mild erythema will be necessary, but with carcinoma a severe erythema verging on blistering is usually required.
5. Some workers, including one of us (N. S. F.), consider lipiodol undesirable in a lung which is to be subjected to irradiation, on the ground that residual lipiodol gives out secondary radiations of long wave-length, which cause damage and necessitate curtailment of the requisite course of treatment.

Technique of Treatment

Various techniques have been used in our cases. As a rule a number of ports of entry are employed, but occasionally, with a very radio-sensitive tumour, only anterior and posterior fields are necessary. Various different plans have been used according to the situation of the growth: if in the anterior part of the mediastinum, a number of relatively small ports of entry are used converging on the

mediastinum; but, if the growth extends far into the lung, larger fields are usually employed—generally four—at an angle of 45 degrees to the direct anterior and direct posterior, taking in both the lung growth and the mediastinum, and decentred towards the side of the growth. In other cases, where the growth is almost entirely on one side and far into the lung, a direct anterior and posterior field is used, slightly to one side of the middle line, and this is supplemented by a lateral field on the affected side.

In most cases the filtration has been about 0.5 mm. of copper and 1 mm. of aluminium, and 180 kV continuous current on the tube, but in our later cases a Thoraes filter has been used, which is equivalent to about 2.7 mm. of copper, with 200 kV continuous current, and at the present time we are using for our private cases an even higher voltage, up to 300 kV Villard circuit current with a filter of 0.6 mm. tin + 0.25 mm. copper + 1 mm. aluminium, equivalent, with the wall of the tube, to about 4 mm. or more of copper. With the increase in filtration the number of roentgens (r) to produce an erythema dose increases considerably, and the number of roentgens necessary on the growth also increases.

For a lymphosarcoma or a very radio-sensitive tumour it is necessary to give about 150 to 180 per cent. of an erythema dose, spread over a fortnight; a larger dosage must be given if it has to be spread over a longer period, owing to the patient not being able to tolerate the ordinary dose at first.

With a carcinoma of the lung or resistant growth, about 250 to 300 per cent. is given, spread over a month or six weeks.

The erythema dose we reckon with 0.5 mm. copper and 180 kV is 650 roentgens: the erythema dose with a filter equivalent to about 0.4 mm. of copper and 300 kV is approximately 1,000 roentgens.

Effects of Treatment

It is always difficult to reach a definite conclusion as to the results of any particular line of treatment, and care must be taken in assessing the results. This difficulty applies particularly in the case of bronchial carcinoma, because the criteria of improvement are difficult to define on account of the well-known spontaneous variation of symptoms. In the first place there may be obvious clinical relief of urgent pressure symptoms; secondly, the effect of treatment on the size of the tumour may be observed in serial skiagrams; and lastly, the result as regards the duration of life may be considered.

The first of these criteria is a matter of clinical observation. In calculating the size of the tumour on the α -ray film only very gross changes should be admitted, for the direction and penetration of the rays may cause minor apparent changes which are of no great significance. We therefore propose, in judging the effects of treatment on the size of the tumour, only to include cases in which the shadow has practically disappeared. Finally, the duration of life from the date of the beginning of treatment may be considered; the advantage of this is that it provides a fixed point from which calculation may be started, and it is thus more definite than calculations which are based on the total duration of symptoms, in which case no very definite point of commencement can usually be fixed.

The forty-four cases of bronchial carcinoma treated by α rays can be divided into the following groups:

1. *Cases which Showed Great Improvement.*—Twenty-three cases are included in this group, primarily on the ground of symptomatic benefit. In ten of these relief of pressure symptoms was rapid and the result dramatic. In eleven there was gradual improvement over a period

of weeks. In the remaining two cases the shadow in the x-ray film disappeared, but it is noteworthy that there was little or no improvement in the condition of the patient. Serial skiagrams showed almost complete disappearance of the shadow cast by the primary growth in nine cases, and complete re-expansion of a collapsed lung in two cases. The ultimate fate of the cases is as follows: five are known to be alive at the time of writing, thirty-two, thirty-one, twenty-four, six, and five months respectively after the commencement of treatment. In the first three of these cases it is probable that life has been greatly prolonged in addition to the symptoms being relieved; in one of these the diagnosis has been confirmed histologically. The remaining eighteen patients are all known to have died, and the average duration of life after beginning treatment was 9.7 months. Only three patients survived more than fifteen months, dying respectively in thirty-six, seventeen, and sixteen months.

2. Cases which Showed Slight Improvement.—In seven cases there was incomplete but definite relief of symptoms, and in this group the average duration of life was 8.6 months. The fact that the average duration of life in these two groups is about the same would appear to suggest that great symptomatic improvement or disappearance of the shadow in the skiagram does not necessarily indicate prolongation of life.

3. Cases which did not Respond to Treatment.—In fourteen cases there was no change in the condition of the patient after a course of treatment. In two, the date of death could not be ascertained; the average duration of life in the remainder was 5.4 months.

It does not seem that x-ray treatment has any great effect in prolonging life in this disease, except possibly in rare cases; it is quite definite, however, that this treatment can relieve the more urgent and distressing symptoms in about two-thirds of the cases, and can cause local disappearance of the tumour. In our opinion there is sufficient evidence of symptomatic improvement to justify the adoption of this line of treatment in all cases in which obstructive or irritative symptoms are present. The changes in the size of the tumour, as demonstrated, are sufficient to justify the hope that improvement in the technique of treatment will in the future yield greatly improved results.

4. Cases Treated by Radium.—In ten cases in which radium or radon was introduced directly into the growth through a bronchoscope the average duration of life after the operation was 2.4 months. In no case was any dramatic improvement recorded, and, in two, death resulted from haemorrhage shortly after the operation had been carried out. The results in this series are therefore definitely discouraging. In two further cases radium was inserted into the tumour through the chest wall. In one of these marked temporary diminution of the tumour occurred; in the other there was decided improvement in the general condition of the patient for a few months; death occurred eight months after the operation.

Other Intrathoracic Tumours.—Nine cases of malignant tumour other than bronchial carcinoma are included in this series. This group is composed as follows:

Secondary hypernephroma	2 cases
Primary sarcoma	1 case
Secondary sarcoma ? appendix	1 "
Secondary sarcoma ? bladder	1 "
Secondary carcinoma breast... ..	1 "
Secondary sarcoma fibula	1 "
Secondary carcinoma thyroid... ..	1 "
Endothelioma ? from thymus	1 "

In four cases the treatment did not appear to have any effect. In two cases, secondary to hypernephroma and to carcinoma of the bladder, haemoptysis appeared to be controlled by irradiation; the intrathoracic deposits in the case of sarcoma of the fibula diminished greatly in

size under the treatment, and the cough was much relieved.

The remaining two cases are remarkable in that the patients are alive eleven and twenty-one years respectively after treatment.

The first was a patient under the care of Sir Thomas Dunhill and Dr. Thursfield. A mediastinal tumour was present, causing breathlessness, swelling of the neck, distended veins over the back and chest, shoulders, and arms, and a gland or prolongation of the tumour in the right supraclavicular region. A sternal flap was made and the tumour exposed. This was thought to be an infiltrating sarcoma, and nothing more was done. Microscopical examination of the portion removed revealed an endothelioma of apparent thymic origin. Courses of x-ray treatment were commenced in August, 1923. The tumour entirely disappeared, and the patient is alive and well at the present time.

The second was also a patient under the care of Sir Thomas Dunhill. She was first seen in November, 1913, when a nodular goitre on the right side was removed. Section suggested malignancy. In 1918 a small nodule was removed from the extreme right edge of the scar. Section showed an almost solid mass of epithelial cells, resembling thyroid cells. The patient remained well until 1927, when a haemoptysis occurred (half a cupful). The skiagram at this date showed rounded nodules in both lung fields. These increased rapidly, until there were many nodules of a perfectly rounded shape in both lungs. X-ray treatment was therefore commenced in March, 1928. The haemoptysis ceased and the patient remained in good health, and has done so until the present day, although the nodules have grown in size and number.

Finally, there are five cases to be considered in which both the clinical picture and the x-ray appearance suggested malignant tumour, in which either cure or great relief has occurred. Unfortunately, in none of these cases have we histological proof of the nature of the mass. They are of such interest that they are worth describing in detail.

The first was a case included in the original follow-up in 1926. The patient, E. M., was under the care of Dr. Robert Hutchison at the London Hospital in 1924, with swelling of face and neck, and a shadow in the skiagram suggestive of growth in the right upper lobe. The diagnosis was malignant growth. X-ray treatment was given, and the patient made a complete recovery. He was seen by one of us (F. G. C.) in 1926, when it was thought that the original diagnosis was probably mistaken, and that it was a case of dense fibrosis and not malignant disease. It fortunately happened, however, that we were able to keep in touch with the after-history of the case. He died in 1933 of intestinal obstruction, when a columnar-celled carcinoma of the descending colon was found post mortem, and, through the kindness of Dr. W. Smith, we were able to obtain the result of the examination. There was marked dilatation of the azygos vein, there were universal pleural adhesions on the right side, and a firm mass was present at the hilum of the right lung, about two by one and a half inches in size. Some fibrosis was present in the lung itself. Section of the mass showed merely much fibrosis with round-celled reaction. The pressure symptoms originally suggested malignant growth of the lung. We can make no further comment.

The second patient,* a woman aged 34, was under the care of Lord Horder and one of us (N. S. F.) in 1930. The skiagram showed an enormous mediastinal mass, extending into and occupying most of the left lung field. This was treated by x rays, and the entire mass disappeared, and the patient is alive and well to this day. There must remain a doubt whether this was a primary mediastinal lymphadenoma or a lymphosarcoma.

Case number three was a man aged 57, seen by one of us in 1930, at the City of London Chest Hospital, Victoria Park. The patient complained of cough, shortness of breath, loss of weight, and haemoptysis. There was clubbing of the

* There has been a recurrence in this case in May, 1934. She has again been treated by x rays and the shadow has again disappeared, and there is now no evidence of disease.—N. S. F.

fingers. The skiagram showed a dense mass filling the whole of the right upper lobe. Exploratory thoracotomy was performed by Mr. Romanis, when a large inoperable "growth" was encountered. Unfortunately no piece was taken for section. It was assumed to be a carcinoma, and the operation was abandoned. He was then transferred to St. Bartholomew's Hospital, where he was given twenty applications of x rays. The mass almost entirely disappeared, leaving considerable fibrosis. The patient is still alive and well, but the nature of the mass remains in doubt.

The fourth case was that of a lady aged 55, seen privately (F. G. C.) first in July, 1932. There was pain in the back and shortness of breath and loss of weight. She had been fairly well until a year previously, when the symptoms commenced. When first seen the patient was extremely ill, with dyspnoea, stridor, and slight clubbing of the fingers. There was intense dullness over most of the left side, almost down to the base, where she was resonant, and where breath sounds were present. Over the dull area breath sounds were absent and vocal resonance diminished. There was a loud surging murmur to be heard in the second intercostal space. She was explored deeply on two or three occasions, when pure blood was obtained with great ease, the syringe rapidly filling. The heart was displaced away from the mass. She was so ill that an exploratory thoracotomy was considered to be unjustified by Mr. J. E. H. Roberts. The diagnosis was a large innocent tumour or a lymphosarcoma: Wassermann reaction negative. On going further into the history it was found that three years previously she had had severe pain in the left chest, which made her faint.

A full course of deep x -ray therapy was given, after which she made a most striking improvement, although the shadow remained unchanged. This improvement continued to December, 1933. The patient was able to take long walks and drive a car, and felt comfortable and almost free from symptoms. In December, however, she began to have choking attacks, and a further course of x -ray treatment was given. She was very ill both during and after this course, but is improving again, and able to lead an active life. The improvement in symptoms was most striking and dramatic, but again there was no change in the shadow. The nature of the tumour remains in doubt.

The fifth patient was a man aged 54, seen at Victoria Park Chest Hospital; he complained of pain in the right chest and axilla, much dyspnoea, loss of weight, and some cough. There was a large homogeneous shadow in the skiagram, occupying the middle zone of the right chest, and extending from the periphery inwards, almost touching, but not apparently involving, the hilum of the lung. The shadow looked like a localized pleural effusion. Several exploratory punctures were made, however, and no fluid was found. The Wassermann reaction was negative. It was regarded, therefore, as a malignant tumour, and twenty applications of deep x rays were given, from February to April, 1933. The tumour practically disappeared, and the patient is still alive and in reasonably good health. Within the last few weeks he has developed headache with papilloedema, almost certainly due to an intracranial metastasis.

Conclusion

There can be little doubt that since the publication mentioned at the beginning of this paper the results of x -ray treatment have improved very greatly. We have been able to quote many cases of great relief or complete disappearance of symptoms, and some where the undoubted malignant mass in the chest has entirely disappeared. While we cannot yet claim to have arrived at a cure, we have been able to quote two, and possibly three, cases in which this has apparently been obtained. In two instances, where the diagnosis has been proved beyond all manner of doubt, there has been a complete and lasting cure, but neither of these tumours was of bronchial origin.

In view of these conclusions we shall often be exercised, in making the decision, whether to advise this treatment to an individual patient or not. Relief from pressure symptoms can be expected in a certain proportion of cases, and if these are severe and distressing we can hardly

deny the treatment if it is available. In other cases, in view of the unavoidable expense of the treatment or the inconvenience caused by moving the patient to an institution, and the impossibility of guaranteeing a result and the severe reaction that may be suffered during or shortly after the cessation of the treatment, we may find it very difficult to make up our minds. A decision may have to be left to the patient or to the relatives. This attitude will not hinder the progress and development of the treatment of carcinoma or other malignant tumours of the lung by radiation therapy, because there will always be a large number of patients who will demand active measures; and who, particularly in the early stages, will demand this or some other form of active treatment.

In conclusion, we must not forget the dramatic improvement in the individual case in surveying the final result of the treatment critically and dispassionately.

REFERENCE

¹ *Lancet*, 1927, ii, 596.

SPECIAL CLINICS FOR DIABETICS

(ORGANIZATION AND EXPERIENCES)

BY

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The organization required for prolonged treatment of diabetics has become of special interest, since, through the discovery of insulin, even severe cases of diabetes may be kept in a good condition permanently. Yet in actual practice, although the average duration of life among diabetics has increased (Joslin¹), periodic examinations have often demonstrated the results to be disappointing. According to Loewenberg and Noah,² one year and a half after discharge from the hospital only 10 per cent. of the patients were without glycosuria, and a large number showed increased fasting blood sugar or even acidosis. On extending his investigations over a period of six years, Reinwein³ stated that about 40 per cent. of the patients had died; of the remainder, 42 per cent. did not carry out the insulin treatment properly, and 28 per cent. admitted that they had not strictly adhered to the diet which had been prescribed for them. As a consequence, the largest Berlin panel organization (Allgemeine Ortskrankenkasse) found that the incapacity present among diabetics in most age groups was on the average twice as great as was the case among patients suffering from other diseases (Pryll⁴).

Some Causes of Unsuccessful Treatment

There are different reasons for the fact that the ultimate results in ambulatory practice are so unsatisfactory as compared with the success obtained through hospital treatment. The patients may find a certain diet which, although suitable while at rest in hospital, is insufficient while they are at work. By taking inadequate food they lower their tolerance, and the condition becomes worse, though very often exercises have a favourable influence on carbohydrate metabolism.

This has been proved by experimental as well as by clinical observations. After partial extirpation of the pancreas in the dog physical work diminishes glycosuria, but has no influence on it when the gland has been removed completely (Seo,⁵ Allen⁶). Correspondingly, clinical workers have found that in suitable cases exercises could improve the carbohydrate tolerance of diabetics (Trousseau,⁷ v. Noorden,⁸ Buerger,⁹ Allen, Stillmann, and Fitz,¹⁰ Hetzl,¹¹ Lawrence,¹² Joslin¹³).

Further, the condition of a patient may deteriorate if he is prevented by his profession or for any other reason from having his meals at regular hours. Disappointing results over a long period may often be due to the financial difficulties of the patient, causing him to neglect the treatment. Statistics have shown that disablement among diabetics depends to a great extent on their financial condition, the average duration of disablement being inversely proportional to the income (Pryll⁴). Patients are as a rule prepared to adjust themselves to a diet and to the demands of insulin administration, but lack of money leads to neglect of the treatment, then to a decrease in the carbohydrate tolerance, and to complications which may even endanger life.

Such relapses compel diabetics to undergo repeatedly a strict regime in hospital, because at home only a small number of intelligent and self-controlled patients will allow the physician to carry out the measures necessary in severe acidosis or in the complicating infections. Diabetics therefore become in-patients, not only for short control examinations, but also for longer treatment in order to regain a bearable degree of carbohydrate tolerance.

According to Pryll's statistics, the average stay in hospital for these patients is a rather long one. Likewise, Loewenberg and Noah state that 37 per cent. of their cases were in-patients for from one to three months and 9.5 per cent. for over three months.

Apart from the high expenditure incurred by the long stays in hospitals, the costs for the insulin became very high. For instance, in 1931, 155,000 prescriptions, covering 57 million units of insulin, were issued by British insurance practitioners.¹⁴ Therefore, *for all organizations having a large number of diabetics under their care, the problem was to find a way to keep these patients in a good condition and, at the same time, to diminish the costs of treatment.*

Several proposals have been made in an attempt to find a solution for the problems raised above. Lyon,¹⁵ Earl,¹⁶ Lawrence,¹⁷ Taterka,¹⁸ Rostocki,¹⁹ Gottschalk,²⁰ and others have written on the subject of clinics for diabetics. Joslin²¹ suggested the foundation of diabetic centres and the education of nurses, each nurse having eventually to take care of a large number of patients. v. Noorden²² considered periodical in-patient treatment to be useful for purposes of control. In order to combine dietetic treatment with individually adapted muscular work, Katsch²³ established a home for diabetics.

Certain essential conditions must be fulfilled in order to achieve a permanent success that is to establish in the diabetics a balanced metabolic condition. It is necessary to have *regular* medical advice, the diet must be adapted to changing circumstances, and it must be impressed upon the patient that his co-operation and self-control alone can lead to lasting good health.

With these ends in view, and in order to diminish, if possible, the expenditure for the treatment of the unemployed diabetics, I, together with Dr. Liebenow, stellvertretender Stadtarzt (municipal officer of health), organized a consulting clinic for a Berlin district of about 360,000 inhabitants, about one-third of them receiving unemployment benefit. The organization and the experiences dealt with in this report are concerned with these 120,000 unemployed people.

Organization of a Consulting Clinic

About 500 diabetics regularly attended the clinic held by the writer and his collaborators in a hospital of the district during three mornings in the week. All analyses were made in the clinic itself. Qualitative and quantitative urinary examinations were carried out at once, but

when the blood sugar was examined patients either waited for the results or attended the following session of the clinic. Two to three technicians were occupied in performing the chemical examinations, in dispensing insulin, and in secretarial services. A registration card was kept for each patient which gave clinical dates, the results of the analyses, and the prescriptions issued. A rapid survey of the condition of the patients could thus be obtained.

Dangerous cases—for example, gangrene—were taken to the hospital to which the clinic was attached. Patients attended at least once a month, but if minor cases were continually in a good condition they only came about every two months; on neglecting to come for control examinations they were communicated with by post. The practitioners of the district were instructed to send their unemployed diabetics to the clinic, and they received written reports on the findings of the clinic and concerning the prescriptions and instructions given. The work of the clinic was strictly limited to the investigation and the treatment of the metabolic conditions of diabetics. The practitioners were in continual contact with the clinic, and attended the patients in connexion with all other aspects of their disease, and with any other complaints from which they might be suffering.

Consultations

Every patient had to bring a sample of urine which had been collected during the previous twenty-four hours; some of them were asked to come while fasting for blood sugar examination, or, if necessary, for a sugar tolerance test. The basis upon which diets for diabetics are prescribed will vary according to the outlook of the physician conducting the clinic. He may prefer a diet rich in carbohydrates, eventually to be combined with large doses of insulin (Adlersberg and Porges, cf. Joslin), or a diet containing much fat and a minimum of protein and carbohydrates (Naunyn, Petren). He may believe that a restricted diet is a chief principle in diabetes treatment (Allen). All these forms of treatment can be carried out among out-patients.

As the patients of the clinic were of the poorer classes, the economic side of dietary prescriptions had to be considered. It must be borne in mind that the victual prices in different seasons vary to a great degree, some types of food being cheap in summer and expensive in winter, and conversely. We had therefore to change the proposed dishes according to the fluctuation in the actual prices. The patients received *detailed dietetic instructions* through leaflets drafted for this purpose, and each patient obtained also a diet sheet suitably prepared according to the needs of that particular case. Forms were given them which contained equivalents of the different carbohydrate foods, as well as combinations suitable for single meals and for a whole day's menu. Moreover, the costs for these dishes were calculated according to the market rates.

It soon became evident that the expensive diabetic diet could only be made available for necessitous people through some financial aid. The municipality not only assisted them by giving free treatment and medicaments, but also by contributing towards the cost of suitable foodstuffs. The scale of assistance given was based on thorough statistical calculation of prices of the foods necessary, and on the degree of severity of the disease and the requirements of the case. Patients requiring insulin were taught how to disinfect and to use their syringes. They received simple printed instructions as to the time relation between insulin administration and carbohydrate intake, as well as information concerning the signs of hypoglycaemia and how this can be avoided. When patients were unable to inject insulin themselves

they were treated at home by nurses. Visiting nurses also attended them, when confined to bed, reported to the clinic, and delivered those samples necessary for examination.

The consultations were supplemented by a series of popular lectures explaining in full the subjects which could only be briefly mentioned during the consultation hours—for instance, the character of the disease, the general treatment and hygienic measures, the different types of diet, hypoglycaemia, and the various complications. In the hospital kitchen patients had the opportunity of learning how to prepare their diet.

Experiences at the Clinic

Some forty to seventy patients attended the clinic during a single session. Most of them came for control examination without having been reminded, and this was particularly so among the severe cases. A considerable number of those attending for the first time were in an unsatisfactory condition. Though receiving large doses of insulin, they often showed high glycosuria or acetonuria. This was caused by neglect of diet for the reasons explained above, or through faulty or erratic insulin administration, as well as through failure to observe the time relation between insulin administration and carbohydrate intake—in fact, this last point often caused the greatest difficulties. Generally the insulin consumption was high, as the patients often continued to use the amount originally prescribed although the tolerance had changed. Some patients had utilized their insulin rather carelessly through lack of supervision. Most of them, when doing muscular work, found it intolerable, both physically and mentally, to take less than four ounces of bread daily. However, when patients became aware that insulin does not cure the disease, but controls it, they usually made the required effort to adhere strictly to their dietetic prescriptions.

Experience has shown that in a great number of patients the form of diet had to be varied. For instance, we often found it necessary to include vegetable days, or, especially in cases with a tendency towards acidosis, an oatmeal day followed by a vegetable day, in order to keep patients in good metabolic condition. A great demand for explanations was apparent at the lectures, usually attended by several hundred persons. These lectures likewise gave a good opportunity for the lecturer to expose the remedies of quacks, so numerous in connexion with diabetes mellitus.

After considering the results of the regular and uniform treatment given within the relatively short time that the clinic existed, I feel justified in concluding that the initial aim of the clinic had been accomplished. Relapses in metabolic conditions occurred but seldom, and the tolerance improved continuously in many cases. This was also proved by the fact that no patient developed coma, although about one-third of all the cases were severe. Consumption of insulin decreased considerably owing to the improvement in the patients' condition as a result of the described method of medical supervision. The first 200 patients treated had previously received about 100,000 units of insulin monthly, but only about the same amount was required by the clinic for about 500 patients. A considerable monthly saving, amounting to several hundred marks, was also made by the purchase of insulin in large quantities. For instance, the price which the clinic had to pay in February, 1933, varied from 45 to 60 pfennigs for 100 units, while previous to its existence insulin was purchased at retail prices (about double the cost). Even in severe cases the adjustment of the diet and of the doses of insulin was made while the patients attended as out-

patients, and only exceptional cases were taken to the hospital for this purpose. As all unemployed diabetics of this district, when requiring in-patient treatment, had to be sent to the hospital connected with the clinic, we were able to conclude accurately that the frequency of hospital treatment decreased among these patients. Again, as most patients were able to prepare the diet at home, the food supply of the hospital kitchen was necessary only in a few cases.

Collaboration with the practitioners proved to be both practical and effective, as the clinic worked exclusively on a consulting basis. Thus they considered the clinic as a welcome help, and practitioners from other districts also sent us cases. As regards the financial side, the additional allowance for extra diet distributed monthly was 10 marks in about 25 per cent. of the patients, 15 marks in about 35 per cent., and 20 marks in about 40 per cent. A few cases which did not require an expensive diet had no extra allowance granted to them. It may be added that we had intended to issue to all our patients a booklet containing, apart from personal data (name, age, address, occupation, membership of any panel or insurance organization), the patient's medical history and any important clinical particulars.

Summary

The organization of, and experiences with, a special clinic for diabetics are described. By suitable and regular supervision metabolic relapses were avoided, and, in general, the patients remained in a good condition permanently. For organizations having a large number of diabetics under their care such consulting clinics are practicable. Also, a considerable saving may be made by lessening in-patient treatment through the constant adjustment of both the diet and the dosage of insulin, and by buying insulin in large quantities at wholesale prices. In this last way alone the consulting clinic on which this report is based saved several hundred marks monthly.

It was proposed to issue a form for diabetics which would describe briefly the condition of the patient for the use of any physician in case of emergency.

I am greatly indebted to Dr. W. Susman for his assistance in translating this paper.

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A NOTE ON THE ANAEMIAS OF PREGNANCY

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Much has been learnt during the last few years about both pernicious anaemia and the simple achlorhydric microcytic anaemias described by Writts, but, although Whitby, in 1932, wrote a paper on "Anaemias in Pregnancy," the practical importance of these anaemias has been insufficiently realized. The reason for this is not far to seek, because the onset is so insidious and the symptoms are usually ascribed to the pregnancy. The result is that a really dangerous degree of anaemia, most frequently of the microcytic type, arises without its presence being even suspected, and if such a case comes untreated into labour the danger of obstetric shock, even in the absence of any blood loss, is very great.

Some slight diminution in the haemoglobin content and red cell count of the blood is physiological during pregnancy on account of hydraemia, but in addition to this there is very often a superadded true anaemia. The common anaemias of pregnancy are the simple types which may occur apart from pregnancy, but their onset is masked and their gravity accentuated by the drain of the foetus on the maternal organism, particularly in the latter third of gestation. They may thus be subdivided into five kinds: the common microcytic type, the more rare megalocytic or pernicious type, anaemia due to haemorrhage, anaemia due to haemolysis following sepsis, and lastly the rare acute idiopathic haemolytic anaemia of pregnancy.

Microcytic Anaemias

The microcytic anaemias arise from a break in the erythron, or chain of red cell development, at the level of the normoblast owing to lack of iron. This may be due to one or more of three factors—deficiency of iron in the food, deficient absorption, and excessive utilization. Deficient absorption is mainly due to the observed fact that throughout pregnancy there is a reduction of the secretions of the stomach, including the hydrochloric acid content. Strauss and Castle found that in 75 per cent. of cases there was hypochlorhydria during pregnancy with immediate recovery in the puerperium. The remaining 25 per cent., with normal stomach contents in pregnancy, showed a puerperal hyperchlorhydria. The effect of excessive utilization is seen in the last three months of pregnancy, when the red cell count falls rapidly owing to the fact that two-thirds of the iron make-up of the foetus is then supplied. The blood count is typical of the microcytic form of anaemia described by Writts, in that the haemoglobin is diminished out of proportion to the red cell count, giving a low colour index, and in the absence of signs of haemolysis or rapid blood regeneration. Dyspepsia, dysphagia, soreness of the tongue, and enlargement of the spleen are all sometimes present.

The Rarer Types

The megalocytic type of anaemia of pregnancy is less common and appears to be due, as in true pernicious anaemia, to a break in the erythron at the level of the megaloblast. It differs from the latter only in the fact that achlorhydria is not a necessary accompaniment, and that the condition arises during pregnancy and is spontaneously relieved by parturition. The blood picture

shows the usual high colour index and leucopenia, and cases generally react well to liver so long as neglect of treatment has not allowed them to fall into an aplastic phase.

There is no need to discuss here anaemia due to haemorrhage or haemolysis following haemolytic streptococcal or anaerobic infections, but a word may usefully be said about the acute idiopathic haemolytic anaemias, which are less rare during pregnancy but are probably related to the infrequently seen haemolytic anaemias occurring during other phases of life.

The symptoms of dyspnoea, oedema, syncope, transient amaurosis or paralysis, fever, haemorrhages, etc., are of sudden onset, usually becoming manifest in the latter two months of pregnancy, and are unaccompanied by any signs of infection or toxæmia. They may occur in primiparae or multiparae, they tend to recur in subsequent pregnancies, and the mortality is in the region of 30 per cent. The blood picture usually shows a megalocytic anaemia with active blood regeneration as evidenced by leucocytosis, and the presence of nucleated red cells and polychromasia. There is excessive haemolysis, causing a positive van den Bergh reaction, and the fragility of the red cells is temporarily increased. Examination of the gastric contents may show no abnormality, but the liver and spleen are sometimes enlarged. The cause of the anaemia is unknown, and treatment consists of blood transfusion, and, if the patient's condition warrants it, immediate induction of labour or Caesarean section. Liver treatment also seems to be of value in some cases.

Recognition and Treatment of Microcytic Anaemia

Although for the sake of completeness it has been necessary to mention the rarer types of anaemia of pregnancy it is the common microcytic type whose importance and frequency it is most necessary to realize. The onset is so insidious and the danger is so real if the patient be allowed to come into labour without previous treatment, that it would seem to make at least a haemoglobin estimation at the seventh month a reasonable routine precaution in ante-natal care. Moreover, the anaemia should be recognized early, as it is in this stage, before there is any tendency to aplasia, that a quick reaction to treatment is to be expected.

The best method of treatment is the administration of iron in large doses or liver, according to the microcytic or macrocytic nature of the anaemia, but the fact must not be lost sight of that both may be needed, and this is particularly obvious in the type of case in which there is originally a high colour index and under treatment with liver the cell count improves and the colour index falls, but the patient does not regain her full quota of red cells. In such a case a little iron will usually complete the recovery. If the patient reacts well to treatment the pregnancy should be allowed to go to term, but if the anaemia shows a tendency to aplasia then termination of the pregnancy must be considered whenever the patient appears to be in a fit condition to stand the shock of labour. In those cases in which severe anaemia is discovered only at term labour should be postponed as long as possible to allow of treatment, and, when it commences, Caesarean section with simultaneous transfusion probably affords the least risk of obstetrical shock.

Four Illustrative Cases

There are two points that it is particularly desired to stress: the frequency of a moderate degree of microcytic anaemia in pregnancy, and the consequent risk of obstetrical shock following delivery if the anaemia is not treated. These points, and also the insidious, occult nature of the anaemia, are well illustrated in the following case reports.

Case 1.—This demonstrated the real risk of obstetric shock in a megalocytic anaemia of pregnancy. Mrs. C., aged 42, a multipara of five, gave a history that for three weeks before her last pregnancy, nine years ago, she had severe vomiting, and that she was very ill for some months afterwards. For five years she apparently had had a recurrent urinary infection. Within a month of again becoming pregnant she began to feel ill and vomited. She was admitted to hospital seven months pregnant in a very serious condition, very pale, and with oedema of the feet and abdomen. The urine contained no albumin, the blood pressure was 130, and the blood urea was 22 mg. per cent. The blood count showed a haemoglobin of 30 per cent., red cells 1,300,000, colour index 1.1, and white count of 6,000. A film showed slight anisocytosis and polychromasia and a few nucleated red cells. The patient was treated with liver extract, iron, and transfusion, but after a week she had but little improved. The urine now contained albumin, and the blood count was unaltered. Two days later the patient came into labour, which was rapid and normal in every way, and gave birth to a live child weighing 4 lb. 10 oz. The total blood loss was estimated at under 10 oz. The patient, however, became very shocked and died four hours later.

Case 2.—Some of the difficulties of diagnosis, even in a very severe grade of anaemia, were shown in this case. Mrs. G., aged 25, a multipara of three, was admitted to hospital, seven months pregnant, for toxæmia of pregnancy. She gave a history that for the past month she had felt tired, had had frequent headaches, and had lately begun to "swell up." On admission there was gross oedema of the legs, abdominal wall, and vulva. She was pale, but the pallor was masked by telangiectases on the cheeks. The blood pressure was 120/80, temperature 99°, pulse 100-110. The urine was of 1020 specific gravity, and contained a trace of albumin. Blood urea was 18 mg. per cent. Blood count: haemoglobin 22 per cent., red cells 2,120,000, colour index 0.5, white cells 8,800. A film showed slight anisocytosis and few nucleated red cells. On treatment with massive doses of iron, within two weeks the patient felt quite well, all oedema had gone, and the haemoglobin was 50 per cent., with a colour index of 0.8. A test meal was performed and showed complete achlorhydria. The patient came into labour and had a normal delivery at term, the blood count then being—haemoglobin 80 per cent., red cells 4,000,000, colour index 1.

Case 3.—A typical case of microcytic anaemia of moderate degree. Mrs. H., aged 29, a one-para, gave a history of vomiting and giddy attacks since seven months pregnant. When seen at the eighth month a blood count showed a haemoglobin of 43 per cent., red cells 4,150,000, colour index 0.5, and white cells 4,600. On iron medication the haemoglobin rose to 55 per cent. during the next month, and three weeks later, after a normal delivery, it had risen to 78 per cent.

Case 4.—Another case of moderate degree of microcytic anaemia. Mrs. T., a multipara of two, was seen when seven and a half months pregnant, complaining of paroxysmal tachycardia. On examination the heart appeared normal and the mucous membranes were slightly pale. A blood count showed a haemoglobin of 68 per cent., red cells 3,860,000, colour index 0.88. On treatment with iron the haemoglobin rapidly rose to 79 per cent., the attacks ceased, and she had a normal delivery at term.

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A conference on "Youth and Health: What can we do to Help?" organized by the British Red Cross Society, was held in London last June, and among the speakers were Dr. Ralph Crowley and Dr. Margaret Lowenfeld. A full report of the discussions has now been published by the society at 14, Grosvenor Crescent, S.W.1, in pamphlet form, price 6d.

Clinical Memoranda

SUPERIOR MESENTERIC THROMBOSIS

In connexion with an article on the above subject by Mr. R. M. Sargent, published in the *Journal* of July 14th (p. 64), it may be of interest to report a case of spontaneous recovery from a superior mesenteric thrombosis which occurred at the Herefordshire General Hospital under the care of Mr. E. W. Du Buisson, who kindly allows me to report it.

A woman, aged 54, was admitted in November, 1916, with abdominal pain and vomiting—pulse 120. An old right femoral hernia was reduced by taxis, and the patient, relieved, insisted on going home. The next morning she was sent in by her doctor as a possible "reduction en masse" with acute abdominal pain and vomiting. The pulse was now 130. At operation the hernia was found properly reduced. The incision prolonged upwards, however, showed one and a half feet of small intestine near the caecum much dilated and rosy red in colour. There was lymph in the coils and a thrombosis of the mesenteric trunk. The contents were milked down, the hernial sac was removed, and peristalsis noted before the abdomen was closed. She recovered well, though enemata were necessary for some weeks.

Hereford.

B. E. W. STALLARD.

VARICELLA AND HERPES ZOSTER

The cases described below, which would appear to show a clear clinical relation between herpes zoster and varicella, seem worthy of record. The Barbara-Edith Convalescent Home for Children at Blechingley is staffed by a matron and a nurse. There are, in addition, three domestics. Apart from these people and myself, as honorary medical officer, the twelve children, admitted there as convalescents from London hospitals and associations, come into contact with no other persons (except their parents, who are allowed to visit them on one day only in a month), since the home is right in the country and some way from any neighbouring dwelling.

Margaret W., aged 3½ years, was one of a batch of children admitted to the home on May 14th, 1934. She had, on the day of admission, her first crop of herpes zoster, localized to the tenth dorsal segment on the left side. Except for her age, her attack of shingles was in all respects completely typical, and was well developed when she was first seen by me on May 24th, ten days after its beginning.

Betty H., aged 3½ years, was one of the same batch of children admitted on May 14th. On June 6th she developed a few vesicles, suspiciously like early varicella, but had no fever. In the light of the other cases, and because of the subsequent course of her rash, there is no doubt that she had an attack of varicella.

Poppy B., aged 4½ years, was also one of the same batch of children admitted to the home on May 14th. On June 7th—that is, on the twenty-fourth day following that of her admission—she developed a crop of vesicles in all respects like early varicella, and ran a temperature (up to 100° F.) for forty-eight hours. By the third day there was no doubt that she had this disease. Since their admission the above three children had come into contact with no outside persons, except on a visiting day, which happened on June 2nd, and which therefore allowed too short a period of incubation for them to have been infected on that day.

On June 22nd Sadie G., aged 4½ years, was seen with typical first-day varicella. She had no doubt been infected by one of the two preceding cases.

Unless the varicella took at least twenty-four days in incubating, which is exceedingly improbable, there seems little doubt that it must have been communicated from the child suffering from herpes zoster, who was a free contact with all the other inmates of the home.

Blechingley.

DOUGLAS ROBERTSON, B.M., M.R.C.P.

Reviews

DERMATOLOGY

For many years the handbook on *Diseases of the Skin* by the late Sir Malcolm Morris was one of the leading authorities on the subject in the English-speaking world, and its popularity may be estimated from the fact that no fewer than seven editions were needed within a little over twenty years. It was always kept thoroughly abreast of the modern developments of the specialty, and in preparation of the three last editions Sir Malcolm Morris was assisted by Dr. S. Ernest Dore. But the seventh and last edition has now been out of print for some years, and has necessarily fallen out of date. Dr. Dore felt that it should once more be brought abreast of the times, and began to revise it for that purpose. But as the revision progressed it was found that although the original structure and classification might be preserved, so much fresh matter had to be introduced that the book became practically a new one. Hence the volume now before us is the production of the joint authorship of Dr. DORE and of his colleague Dr. JOHN L. FRANKLIN.¹ Curiously enough it is somewhat smaller than the parent work, but it is extraordinarily concise, and contains all the essentials of the subject.

Although, necessarily and properly, greater space has been devoted to the dermatoses which are most frequently met with in clinical work, mention is made of very nearly every pathological change in the skin, however rare it may be. In our opinion it is doubtful whether this completeness is advisable in a book intended for students and practitioners. To some extent it tends to give the uninitiated a distorted view of the subject. The vast bulk of patients, both in hospital clinics and in general practice, suffer from a very limited number of diseases. There are, we believe, about three hundred and fifty skin diseases catalogued in nosological nomenclature. Of these at least two-thirds are so rare that they may well be omitted in a textbook intended for students and general practitioners. They interest the specialist alone, and him only as museum specimens; but when a student finds a considerable portion of a textbook occupied with these conditions which are all blessed with names of extraordinary length, he fancies that in order to deal with the skin troubles of daily life he must be familiar with acanthosis-nigricans and purpura telangiectodes, although in all probability he will never see such a case in his lifetime. Hence he sometimes fights shy of the dermatological department altogether, and loses the opportunity of learning to manage the impetigo and dermatitis cases which will comprise 98 per cent. of the skin patients he will meet with in an ordinary practice. We do not for a moment suggest that the perusal of the present work will have this deplorable effect on the student mind, but possibly it would not have mattered if a few of the rarities had been omitted. It is a thoroughly good book, and the old bottles which have been taken over from its famous predecessor in the shape of structure and pattern turn out to be quite well adapted to contain the new wine of modern dermatology.

The illustrations are plentiful and good (some of them, too, we recognized at once as having been transferred from the parent volume), but the authors have not been seduced by the meretricious charms of coloured plates; those plates which one always expects to be so graphic, but which so often are unsatisfactory! Finally, we may add that the book is of convenient size and moderate price, and deserves to enjoy the same popularity as its forerunner.

¹ *Diseases of the Skin. A Handbook of Dermatology for Practitioners and Students.* By S. Ernest Dore, M.A., M.D., F.R.C.P., and John L. Franklin, M.A., M.D., M.R.C.P. London: Cassell and Co. Ltd. 1934. (Pp. 410; 46 plates. 10s. 6d. net.)

BLOOD TRANSFUSION

A monograph on Blood Transfusion in Medical Practice by Dr. R. LIÈGE² is in two parts, dealing respectively with indications for this procedure and the results to be expected from it, and with its possible dangers. The conditions in which blood transfusion may be indicated are placed in four main categories: blood diseases, haemorrhage from the alimentary tract, typhoid fever, and a miscellaneous group described as infections and intoxications; it will be understood from this that the adjective "medical" in the title of the book is to be interpreted in its narrower sense, since no reference is made to surgical or obstetrical indications. The possible uses of blood transfusion in a number of conditions in which its value is perhaps not clearly established are stated fairly and with caution; the same attitude animates the section on immuno-transfusion, in which a clear distinction is drawn between three different procedures covered by this term. The dangers of blood transfusion are discussed at almost equal length with its indications, and the number of pages devoted to the accidental transmission of syphilis and malaria is perhaps disproportionately large; the remainder of this section is, of course, concerned chiefly with the effects of transfusing incompatible blood.

Alleged instances of a change in blood group which have been reported are discussed at some length, and the author is inclined to believe that such a change can occur. This most disturbing question is one which evidently calls for the fullest inquiry, although those more sceptically inclined will be content to declare that an inherited character must be a fixed one and to dismiss supposed examples of changed group as due to errors of technique. It is perhaps unfortunate that no emphasis is laid on the paramount importance of a direct test of compatibility; if the serum of all patients likely to require transfusions were obtained and kept available as a routine measure these accidents would not occur. Technique, however, is not dealt with in this book, except that a short section is devoted to the special difficulties of choosing a suitable vein in young children.

To physicians and others interested in the medical uses of transfusion this book affords an opportunity of comparing practice in France with that of this country. That the widespread use of transfusion is of somewhat recent development in Paris appears from the fact that the number of transfusions from donors belonging to an organized service has risen from only 220 as recently as in 1929 to 3,738 in 1932. There is a useful bibliography.

AN INTRODUCTION TO BIOCHEMISTRY

It is a matter of no small difficulty for an author of an introduction to a subject to determine precisely how he shall interpret the word introduction. Shall the book present the facts and interpretations in a manner calculated to attract the interest of the neophyte and stimulate him to proceed to a deeper study, or shall it place before the reader a mass of facts, formulae, and figures which may be readily memorized for examination purposes? There is, of course, a place for each of such works, and under present-day educational conditions the latter kind of book will probably have the wider public, provided it is well written and the facts are put in a pleasantly palatable form. If, in addition, the work is up to date and documented with nice selectivity, it is assured of an enthusiastic reception. Such a book is that of Dr. W. R. FEARON, now before us.³

² *Transfusion du Sang et Immuno-Transfusion en Pratique Médicale. Indications, Résultats, Accidents.* Par. R. Liège. Paris: Masson et Cie. 1934. (Pp. 174; 16 figures. 22 fr.)

³ *An Introduction to Biochemistry.* By W. R. Fearon, M.A., Sc.D., M.B., F.I.C. London: William Heinemann (Medical Books) Ltd. 1934. (Pp. 313. 10s. 6d. net.)

Biochemistry is a young science, and the rapid increase in knowledge makes it very difficult to present a compendium of facts which will not, almost before publication, be superseded. The methods which are at our disposal in biochemical work are still crude in most branches, and the lack of some unitary biological theory makes our interpretation of experimental results often appear elementary and unconvincing in the face of the vast complexity of life phenomena.

Dr. Fearon deflects somewhat from the usual practice in works of this kind, in that he pays considerable attention to the inorganic elements, but the mode of presentation of this branch is dull, and not even the besprinkling of the text with quotations from the poets saves it. The sections dealing with the organic compounds of biochemical importance contain a peculiar mixture of what might be called theoretical biochemistry and practical tests. The theoretical discussions, classifications, and formulae are excellently done, but the value of the practical directions seems to us doubtful. This is emphatically not a book for the laboratory, and the biochemical tests, if they had to be included, might well have been done in a series of separate sections or in an appendix. As it is, the student will simply have to copy out these tests should he decide to use the book for laboratory work, and use them separately from the general text. Some peculiar remarks in the book must be noticed. For example, the author sees in the fact that muscle glycogen does not fall in starvation to so great an extent as does liver glycogen, evidence of a difference between "reserve" and "structural" glycogen. What "structural glycogen" is we do not know. Another peculiar statement is that the sympathetic constricts the muscular wall of the intestinal tract.

The chapters dealing with intermediate metabolism, reduction-oxidation systems, and the pyrrol pigments, are excellent, and contain a mine of valuable condensed information. Taken altogether this is definitely a book to have, and will prove invaluable to the student preparing for the higher examinations, as well as for the teacher who wishes to refresh his memory in fields other than his own.

FRACTURE OF THE NECK OF THE FEMUR

Dr. SVEN JOHANSSON, surgeon-in-chief to the Gothenburg Hospital, has published (in English) a monograph, with 157 illustrations, on *The Operative Treatment of Collum Femoris Fractures*.⁴ In short space he gives a good review of treatment from Royal Whitman's original work up to the present day when he is able to give the results of operation after his own method on fifty cases, and to refer in bulk to another 150 operated by the same method in Sweden by other surgeons. The author is a consistent and rational advocate of osteosynthesis with a stainless steel nail, but, unlike Smith-Petersen, he avoids exposure of the fracture.

There seems good ground on which to base acceptance of Dr. Johansson's conclusions—namely, that by his series of cases he has proved that by proper reposition, and fixation osseous union and a fully satisfactory functional result may be obtained in the majority of cases, even in medial collum fractures, and even in very old patients; that it is possible to obtain the fixation necessary for good union by means of extra-articular osteosynthesis on the principle and by the method described in the present volume; that the method, in spite of its wider indications, probably reduces the mortality risk; that osseous union is effected in shorter time, and the after-treatment simplified; that the conservative treatment hitherto used,

as well as operative treatment with exposure of the fracture, should therefore be abandoned and replaced by extra-articular osteosynthesis as the standard method. We must not be taken to suggest that such a method can be placed in the hands of every surgeon. Special experience of orthopaedic measures, as well as of the apparatus employed, is necessary, and every step must be guided and checked by x-ray control. The object must be to provide enough centres to which patients can be brought for early treatment, rather than to attempt to place highly trained and experienced operators in every town.

HYGIENE FOR NURSES

To write briefly and well for nurses, who although not medically trained are so closely in touch with the affairs of medicine, is perhaps not very easy on any medical topic. In the case of hygiene it is especially difficult, since there is on the one hand so much to say because it is important, and on the other so much to omit lest it overweight the reader. In the fifth edition of Dr. WHITBY'S handbook⁵ the essentials of the subject are well presented, and little appears that is superfluous, unless it be McKinnel's ventilator, with diagram, which is scarcely worthy of the space it occupies. Particular attention has been paid to infection, food, and personal hygiene. In the chapter on infection, preventive medicine is happily described as a practical large-scale application of the aseptic technique of the operating theatre. Immunity is well summarized, and what is said on the Schick test is sufficiently informative. The part played by milk in spreading typhoid fever nowadays might perhaps have been more emphasized. The advantage of the cresol derivatives in disinfection is properly indicated; but it would, we think, have been of service to lay more stress on the respective values of concurrent and terminal disinfection, since the former, which is mainly the nurse's duty, is now to be regarded as the more important of the two. In the chapter on food the canned tomato is noted as a good source of vitamins. Ptomaine poisoning is described as "of rare occurrence," which is a step in the right direction. In the chapter on personal hygiene an hour's tennis is preferred to stereotyped muscular exercises, which is good advice. The above remarks, where critical, merely reflect shades of difference of opinion. We have found no errors in the book, which is concise and lucid in style, and well adapted for reading by nurses. We commend it to their teachers also; who will find it a reliable guide in deciding not only what to say but how best to say it.

The State examination in hygiene for nurses now covers a field which in scope at least, though the standard of knowledge expected is different, is comparable with that professed by the student of medicine. With a view to helping the nurse to prepare herself for this ordeal the Sister Tutor of Middlesex Hospital has published a guide to the examination in the form of question and answer.⁶ The questions for the written examination appear to be well chosen. A number of them have doubtless already been set and the rest are such as might be. The answers given are of suitable length, and should satisfy the examiners. A useful feature is the inclusion of specimen oral examination questions, the answers to which are not expressly supplied, being contained in the text elsewhere.

⁵ *The Nurses' Handbook of Hygiene: An Elementary Text-Book.* By L. E. H. Whitby, M.A., M.D., F.R.C.P., D.P.H. Fifth edition. London: Faber and Faber Ltd. 1934. (Pp. 174; 23 figures. 4s. 6d. net.)

⁶ *Aids to Elementary Hygiene. A Guide to the Preliminary State Examination.* By Evelyn C. Pearce. London: Faber and Faber Ltd. 1934. (Pp. 163. 3s. net.)

⁴ *The Operative Treatment of Collum Femoris Fractures.* By Sven Johansson, M.D. Copenhagen: Levin and Munksgaards. 1934. (Pp. 148; 157 figures.)

Notes on Books

New editions of two large and well-illustrated textbooks of histology have reached us from America. One is a sixth edition⁷ of a work by Dr. HARVEY ERNEST JORDAN, professor of histology and embryology in the University of Virginia; the other is a second edition,⁸ reshaped typographically throughout, of the work by the late Professor ALEXANDER MAXIMOW and Dr. WILLIAM BLOOM, of the University of Chicago.

The *Craniocerebrale Schemata für die Roentgenographische Lokalisation*,⁹ by Professor A. SCHÜLLER and Dr. H. URBAN, are intended to help the radiologist in localizing intercerebral disease and in determining the exact situation of foreign bodies. The method is simple, quick, and precise enough for practical purposes. It has none of the disadvantages attached to the various means of localization of intercerebral disease by contrast methods. The authors claim that endocranial foreign bodies—including projectiles and air pockets, abnormal calcification and ossification of the skull (so-called "cerebral stones"), calcified and ossified tumours of the brain, its membranes, and vascular system—can all be accurately localized, as can also traumatic defects. A detailed description is given of the radiographic technique, which is very easy to carry out. The radiologist will find the "Craniocerebrale Schemata" a valuable addition to the many methods of localization.

No. 13 of the medical pamphlets issued under the auspices of the Medical Society of Individual Psychology¹⁰ comprises two lectures by Dr. ALFRED ADLER and an address by the late Dr. F. G. CROOKSHANK, together with some miscellaneous matter. These pamphlets are now edited for the society by Dr. J. C. Young.

First Aid in Defence against Chemical Warfare, by Major-General D. J. COLLINS and Major H. STUART BLACKMORE, is a booklet issued by the British Red Cross Society.¹¹ It was first published in 1929, and a second edition has now appeared. The subject is one of considerable topical interest, for reports from the Continent show that great attention is being paid there to methods for protecting civilian populations in cities against aerial gas attacks. The book gives a short and clear account of the chief types of gas used in the Great War, and of the methods that were then elaborated for treating gas casualties. An intensive gas attack on a large city is a horror of which at present we have no experience, but medical men who had much to do with gas casualties in the Great War can visualize some of its probable effects. A chapter is devoted to the protection of the civilian population based on the recommendations of the International Red Cross Committee. The general idea appears to be to organize an ambulance service, adequately protected by masks and clothing, for the collection of casualties and to tell the rest of the population not to give way to panic. It may be appropriate to mention here a paper on "The Chemist and National Defence," which was read by Mr. J. Davidson Pratt before the Glasgow Section of the Society of Chemical Industry on October 5th, and has since appeared in *Chemistry and Industry*.

The 1934 edition of the Register of Members of the Chartered Society of Massage and Medical Gymnastics¹² covers the period July, 1920, to April, 1934. A new section has been made for those who are not practising,

⁷ *A Textbook of Histology*. By Harvey Ernest Jordan, A.M., Ph.D. Sixth edition. London and New York: D. Appleton-Century Company Inc. 1934. (Pp. 738; 610 figures. 30s. net.)

⁸ *A Textbook of Histology*. By Alexander A. Maximow and William Bloom. Second edition. Philadelphia and London: W. B. Saunders Company. 1934. (Pp. 662; 530 figures. 30s. net.)

⁹ *Craniocerebrale Schemata für die Roentgenographische Lokalisation*. Von Professor A. Schüller und Dr. H. Urban. Leipzig and Vienna: F. Deuticke. 1934. (Pp. 8; 17 figures. M. 4; geb., M. 5.)

¹⁰ *Individual Psychology and Sexual Difficulties. (II)*. By Drs. Alfred Adler and F. G. Crookshank. London: The C. W. Daniel Company. 1934. (Pp. 55. 2s. 6d. net.)

¹¹ London: Cassell and Co., Ltd. 1934. (Pp. 68. 6d. net.)

¹² London: Tavistock House (North), B.M.A. Building, Tavistock Square, W.C.1. (4s.)

or whose addresses have proved untraceable. Some inconvenience had been caused in the past by failure to distinguish these. In other respects the new issue resembles its predecessors, there being in addition to the main register of masseuses and masseurs a useful place index, which enables a medical practitioner in any part of the country to discover quickly those who are at work in his neighbourhood. Additional qualifications which are also noted include those for medical gymnastics, medical electricity, and medical hydrology. It may be recalled that these masseuses and masseurs undertake no case except under the direction of a medical practitioner; do not advertise except in recognized medical and nursing papers; and do not sell goods to patients in a professional capacity, nor accept secret commissions on the sale of goods. They merit, therefore, the strong support of the medical profession, which is thus safeguarded against the unregistered and uncontrolled practitioners of massage whose training has been less carefully regulated and whose work is not under supervision.

Preparations and Appliances

KNIFE FOR SUBMUCOUS RESECTION OF SEPTUM

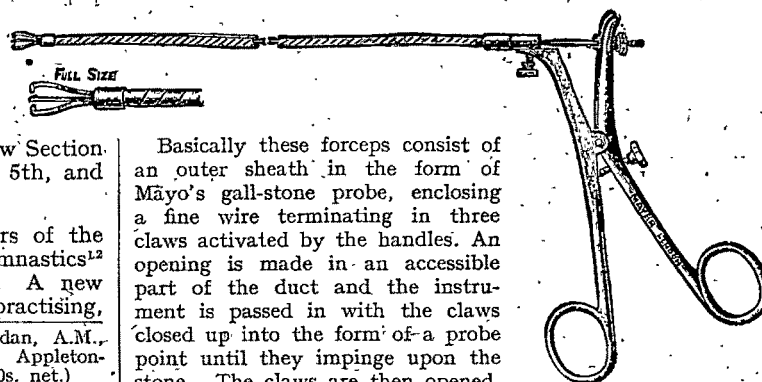
Mr. ARTHUR MILLER, F.R.C.S. (London, W.1), writes: The knife here illustrated has been designed and used by me for the submucous resection of the septum. It is double-edged at the sides and somewhat oval-shaped at its extremity. The incision in the mucosa begins in the uppermost angle of the nostril, and is continued in one sweep right down to the floor of the nose. The lower cutting edge starts the incision; about half-way down the septum the extremity of the knife



takes it up; then the upper cutting edge is engaged; and, finally, the extremity is again used to complete the incision on the floor of the nose. The advantages claimed are: facility of producing the incision with one single sweep right down to the floor of the nose; the impossibility of penetrating the septum; and the fact that it takes the place of a sharp dissector to detach the muco-perichondrium. Mayer and Phelps of 59-61, New Cavendish Street, W., are the makers of the instrument.

CALCULUS FORCEPS

Mr. CONAL CHARLESON, F.R.C.S. Ed., honorary surgeon, Perth Royal Infirmary, writes: The difficulty of removing certain calculi from the bile ducts and ureters has led me to devise the instrument shown in the accompanying illustration.



Basically these forceps consist of an outer sheath in the form of Mayo's gall-stone probe, enclosing a fine wire terminating in three claws activated by the handles. An opening is made in an accessible part of the duct and the instrument is passed in with the claws closed up into the form of a probe point until they impinge upon the stone. The claws are then opened, this action being synchronous with their advancement distally to grip the stone. The grip is tightened and the forceps withdrawn, carrying with them the calculus if all goes well.

The claws open sufficiently to grip strongly anything up to the size of a large pea, and are designed to cause the minimum of trauma to the mucosa of the duct on introduction or withdrawal.

I am indebted to Messrs. Mayer and Phelps for carrying out the manufacture of this instrument with considerable skill.

British Medical Journal

SATURDAY, OCTOBER 20th, 1934

THE OUTLOOK IN NEUROLOGY

"A rare and precious gift," says Osler in one of his essays, "is the Art of Detachment by which a man may so separate himself from a lifelong environment as to take a panoramic view of the conditions under which he has lived and moved: it frees him from Plato's den long enough to see the realities as they are, the shadows as they appear. Could a physician attain to such an art he would find in the state of his profession a theme calling as well for the exercise of the highest faculties of description and imagination as for the deepest philosophic insight." Dr. James Collier's Harveian Oration on "Inventions and the Outlook in Neurology," which we publish to-day, is an outstanding example of this Art of Detachment, and exhibits to the full those powers of description, imagination, and philosophic insight of which he is a master. In his survey of neurology he brings a knowledge of the past to the illumination of the present, and seeks in both for those principles which must guide its future development.

The relationship of form and function in the nervous system is a problem which thrusts itself upon the attention of the neurologist and which most impresses with its difficulty those who have spent their lives in its study. The neurologist, as such, is always concerned with a damaged nervous system. He stands outside it and watches its attempts to carry on its functions in spite of its injury. He is like a geographer trying to draw a map of a country by observing the effect of an earthquake upon the arrival and departure of trains at the railway termini and by questioning the passengers. An injury of the nervous system, whether produced by experiment or by disease, will throw most light upon function in those regions where function is a rudimentary telegraphic conduction of impulses. Hence we know much about the functions of the peripheral nerves and of the spinal cord and practically nothing about the functions of those regions of the cerebral hemispheres which are concerned with thought, speech, and feeling. The conducting functions lend themselves to a high degree of localization, as, for example, in the tracts of the spinal cord. The psychical functions of the cerebral hemispheres are not amenable to localization in the same way. Nevertheless, although the early crude notion of localized centres for speech, sight, and hearing has been abandoned, a sublimated form of it can be found, at least as a working hypothesis in the equipment of many, if not most, neurologists. In part this is because the clinical effects of localized lesions of the

brain indicate that localization of function exists up to a point; though Dr. Collier believes that this is limited to "the input and output paths." In part the persistence of an outworn theory of cerebral localization is due to the difficulty of forming any clear conception of how the brain can function as a whole, and, indeed, of how a network of neurones can function at all to produce thought and feeling out of conducted impulses. To regard, let us say, the Harveian Oration as a manifestation of reflex action, however elaborate, is an act of faith, not a conclusion of science, and owes its plausibility, if plausible it be, to certain philosophical presuppositions. It is unlikely that any progress towards a solution of this problem will be made until it is recognized that form, which is three-dimensional, is incommensurable with function, which, since it involves time, is four-dimensional.

Some of Dr. Collier's views will encounter criticism. Although to him belongs the credit for suggesting that Bell's facial palsy might be due to the virus of herpes zoster, the researches of Drs. R. S. Aitken and R. T. Brain¹ have shown that this is true of less than 20 per cent. of cases. Few neurologists will accept Dr. Collier's contention that in disseminated sclerosis "the process of demyelination," itself symptomless, "is all over and irretrievable so soon as progressive symptoms are present." Nor will it be generally agreed that the recognition of deficiency diseases has made toxic absorption of no importance. The two may be closely related, as is demonstrated by Mellanby's² observation that vitamin A protects the organism against the toxin which causes convulsive ergotism. These, however, are unimportant details. The main implication of Dr. Collier's oration is that a new orientation of neurology is occurring. Applied anatomy and applied physiology, which proved so fruitful a field of research for many years, are becoming exhausted, but the new regions into which neurology must expand are in danger of being claimed by other departments of medicine and of becoming, in Dr. H. A. Riley's³ apt phrase, a "neurologia irredenta." Neurology is being encroached upon by general medicine, by biochemistry, and by bacteriology, as recent developments in the treatment of subacute combined degeneration and of poliomyelitis, for example, illustrate. These encroachments are in the interest neither of the patient nor of medicine as a whole, but they are inevitable unless, as the horizon of neurology becomes extended, the range of vision of the neurologist enlarges proportionately. The view of neurology which Dr. Collier presents is essentially biological. The nervous system can no longer be treated in isolation from the rest of the organism, nor the organism in isolation from its environment. Progress in neurology requires of the neurologist not only readiness to co-operate with workers in many other fields, but also the insight to perceive when such collaboration can be fruitfully undertaken.

¹ *Lancet*, 1933, i, 19.

² *Nutrition and Disease*, Oliver and Boyd, 1934, p. 129.

³ *Arch. Neurol. and Psychiat.*, 1933, xxix, 862.

NATURE AND TREATMENT OF PERNICIOUS ANAEMIA

Although liver therapy has altered entirely the outlook for cases of pernicious anaemia, speculation and experiment have not yet thrown light upon the essential nature of the disease. It is well that the state of our knowledge should be reviewed from time to time, and the memorandum¹ on the subject recently prepared by Dr. E. W. Adams gives an admirable account of the more important recent researches. Pernicious anaemia is characterized by a distinctive blood picture, achylia, and, in many cases, a combined degeneration of the spinal cord. That it is a deficiency disease is held by many. Castle has formed an interesting theory that there is a lack of a specific intrinsic factor which is present in normal human gastric juice and absent in that of pernicious anaemia. In the normal individual this intrinsic factor of the healthy gastric secretion interacts with an extrinsic factor present in the food to produce specific haemopoietic effects. That the extrinsic factor is allied to vitamin B₁₂ is suggested by the actively curative results of feeding with marmite in some cases. Wilkinson has brought forward evidence that the intrinsic factor is an enzyme-like body which, acting on a substance in the food, produces an active principle, and this active principle can be stored in the liver and stimulates the formation of red blood corpuscles. Since the stomach in pernicious anaemia has none of the intrinsic factor the normal stimulus to blood formation is absent.

Although these theoretical considerations leave much work to be done before a solution is obtained, there is no doubt that a new era in the treatment of pernicious anaemia was inaugurated by the discovery by Minot and Murphy of the efficacy of a diet with abundance of liver and muscle proteins in blood regeneration. This diet contained little fat, plenty of vegetables and fruits, and was especially rich in complete proteins and iron; and observations soon showed that in liver a really effective treatment for this hitherto intractable disease had been found. Further work demonstrated that the effective principle in liver was contained in the non-protein fraction of liver substance, and liver extracts were prepared which appeared to be as efficacious as whole liver and presented certain other advantages. These liver extracts are now prepared in solid and liquid forms, and are designed for both oral and parenteral administration. Patients can take them more easily. They can even be given by the intravenous or intramuscular route, and thus a much more rapid action is obtained by small amounts of material. This rapidity may be essential in the initial treatment of severe cases. While for a time attention was mainly directed to the use of liver and preparations derived from liver, other organs of the body were examined as to their content of

the pernicious anaemia factor. Tests indicated that desiccated stomach tissue is an agent at least as powerful as liver in combating pernicious anaemia; but it is interesting that the stomach of the hog or some other carnivorous animal must be used in making gastric preparations, the herbivorous animals, such as cow and sheep, not being suitable. The effective principle in hog's stomach appears to be less stable towards heat than that obtained from liver, so that in preparation it is not heated above 45° C. Two cases of food poisoning have recently occurred from the administration of stomach tissue preparation, presumably because the degree of heat for drying the preparation is insufficient to kill pathogenic organisms. Beef, calf, fish, chicken, and pork liver are all effective if taken in adequate amounts. It is not necessary to nauseate the patient by giving the liver raw. Since the active principle in liver is fairly stable towards heat, it may be given lightly cooked. The average daily dose of liver may be taken as half a pound, though more may be needed at the outset of treatment. When the blood count reaches normal the quantity may be reduced, and the average maintenance dose is about a quarter of a pound daily. The necessary daily amount may be taken either at once or in divided doses. There is evidence, too, that the response is quantitative, so that a single large dose may yield the same response over a period of days as the same quantity divided into several doses. The effectiveness of the liver principle is more powerful when injected intramuscularly or intravenously; smaller doses may produce the same effect, and much work has been done in preparing extracts suitable for parenteral administration.

Preceding the clinical improvement there is a temporary and often considerable increase in the number of young red blood corpuscles (reticulocytes) in the blood stream after feeding with liver or stomach preparations, and this reticulocyte response is a test of great value in confirming the diagnosis, foreshadowing the improvement, and showing the efficacy of the particular liver or stomach preparation that is being employed. At the present time the only way to test the efficacy of a new batch of liver extract or stomach preparation is by observing the reticulocyte response in a hitherto untreated case of pernicious anaemia. Formerly not all preparations were tested in this way, and some were placed on the market which were useless. Potent extracts, however, have a distinct place in treatment of desperate cases, where there is no time to wait for the slower action of oral ingestion; and some patients prefer the intravenous or intramuscular route to the daily ingestion of liver or stomach preparations. For maintenance, depending upon the particular brand of extract and the nature of the case, the amount necessary for each injection may vary between 2 and 5 c.cm.; and some patients may be kept well on a single injection at intervals of one to six weeks or more. Other measures are beneficial in treatment, but none can be substituted for liver or gastric preparation. Marmite has been found to be as satisfactory as liver

¹ Recent Researches on the Nature and Therapy of Pernicious Anaemia. By E. W. Adams, M.D. Ministry of Health, Reports on Public Health and Medical Subjects, No. 75. H.M. Stationery Office. (6d.)

in the treatment of the tropical macrocytic anaemias, but neither it nor other yeast preparations can replace liver, liver extracts, or stomach preparations in the treatment of pernicious anaemia. Iron is generally regarded as ineffective in this disease, but when certain complications are present the combination of liver and iron may be of great value. Iron is also of use in the presence of sepsis and arteriosclerosis, and in some rare cases in which, during treatment by stomach or liver, the red cell count outstrips the haemoglobin level.

RECENT WORK ON LEPTOSPIROSIS

In Holland Weil's disease has assumed considerable prominence, while the apparent immunity of England has been seriously questioned as a result of Dr. Hamilton Fairley's observations, published in the *Journal* of July 7th, 1934 (p. 10). During the last ten years 452 cases have been recognized in Holland, of which forty-six (10.2 per cent.) proved fatal. The disease, according to Professor Schüffner,¹ is commonest in the western coastal part of the country, and has its maximum incidence in the province of South Holland, where the case rate is 140 per million. The disease may appear in any month of the year, but the commonest time is July to October. During the hot summers of 1932 and 1933 the summer peak was very marked indeed, and was apparently associated with the increase in bathing. Infection may occur in a number of ways: Bathers in infected areas are exposed to serious risk. Persons who fall into canals, by accident or with suicidal intent, provide a number of cases. Bargemen, fishermen, and workers in slaughterhouses and other rat-infested premises contribute more than their due quota. Infection may also arise from dogs. Water becomes infected with *Leptospira icterohaemorrhagiae* from the urine of sewer rats. In Rotterdam, where cases of Weil's disease are fairly common, from 7 to 40 per cent. of all rats examined have been proved to be infected. The frequency depends largely, however, on the age of the rat. In young rats in Rotterdam no infections were found, while in Amsterdam only 3 per cent. of young rats proved positive. Adult rats, on the other hand, are infected up to a figure of 45 or even 60 per cent. The black rat rarely acts as a carrier. The survival of the leptospirae is determined to some extent by the salinity of the water. It was found that in alkaline water with not more than 40 mg. of chlorine per litre, the organisms survived for ten days or longer, in water with 1,700 mg. for three days, and in sea-water, with 17,000 mg., for only a few hours. Clinically, about 60 per cent. of cases show no jaundice. The true nature of the disease in these cases is suggested by the severe muscular pains at the onset, the heavily coated tongue, the albuminuria, meningeal symptoms, the shift to the left in the leucocyte formula, and, probably most striking of all, the flushed conjunctivae due to dilatation of the episcleral capillaries. Cases without jaundice are not fatal. The diagnosis has to be made finally by the bacteriologist. Though leptospirae

can almost invariably be found by dark-ground illumination in the freshly drawn blood of infected guinea-pigs, they are rarely found by this method in human cases. They may be sought for, however, by light centrifugation of the blood and examination of a thick layer of the supernatant plasma. Cultivation of the blood is much more successful, either directly or after preliminary passage through the guinea-pig. The organisms are commonest in the blood during the first three or four days, but they may be found as late as the tenth day, especially in severe cases. After that they may be sought for in the urine. The most generally useful method, however, is the agglutination test, which becomes positive as the patient recovers. It is carried out with living, or preferably with 0.2 per cent. formalized, cultures. The most important advantage of using killed organisms is that the reaction is not obscured by the occurrence of lysis in the lower dilutions, thus allowing absorption of agglutinin experiments to be carried out. The main type of leptospira causing Weil's disease in Holland is *L. icterohaemorrhagiae*, but a second type, *L. canicola*, has been found as a cause of infectious jaundice in dogs, and of at least one case of human disease. These two organisms, which differ in virulence for guinea-pigs and in serological behaviour, are both different from *L. grippityphosa*, the infecting agent in the swamp fever of Eastern Europe.

GOLD THERAPY IN PULMONARY TUBERCULOSIS

In the front rank of those attempting to consolidate the position of chrysotherapy by accurately determining indications, dosage, and results must be placed Professor Sayé, whose book¹ elaborates the account he gave at the International Tuberculosis Conference at The Hague in 1932. After mentioning the various gold preparations employed in therapeutics, he summarizes the work of other authors with sanocrysin and then describes his own experience, based on 434 patients treated between 1925 and 1931. Rest formed part of the treatment in 342, 40 per cent. being in hospital and the remainder in their own homes, and ninety-two received the sanocrysin as out-patients. The author maintains that his results are particularly demonstrative, as, owing to the lack of sanatorium accommodation in Barcelona and the poor economic circumstances of the patients, less than 15 per cent. were able to undergo a *cura climática* on completion of the course of sanocrysin. In 131 patients only was some form of collapse therapy also instituted. The results, very satisfactory as a whole, are critically examined from different aspects, but in view of the heterogeneous material dealt with very little would be conveyed by quoting the figures. Rather should the results be studied in the clear and concise notes of the fifty illustrative cases and their accompanying excellently reproduced skiagrams. The indication *par excellence* is the early exudative lesion, whatever its extent, and sanocrysin will produce a complete and lasting cure more rapidly (and more conveniently) than will an artificial pneumothorax, and, moreover, with no residual fibrosis. This *nettoyage radiologique* may be

¹ Schüffner, W.: *Trans. Roy. Soc. Trop. Med. and Hyg.*, 1934, xxviii, 7.

¹ *Crisoterapia de la Tuberculosis*. Por el Dr. Luis Sayé. Barcelona: Salvat Editores, S.A. (34 pesetas unbound, 39 pesetas bound in cloth.)

seen even with large "acute" cavities. Relative indications, with surprising results sometimes, are moderately advanced caseous and ulcerative cases, but here, too, it is chiefly the "infiltration," the "fresh spreading disease" of Gravesen, that is most influenced, often preparing the ground for some form of collapse therapy. Old-standing cases with much fibrosis, profound toxæmia, and severe tuberculous lesions elsewhere are contraindications. It is in regard to dosage that Sayé differs considerably from other authors. While the initial and subsequent doses vary according to the weight and general condition of the patient and the type of disease, in nearly 50 per cent. of the bed cases a dose of 0.8 gram or more is reached; in 40 per cent. the total amount was over 8 grams, and sometimes 20 grams or more. He maintains that such dosage improves and hastens the result, and is rendered possible by regulating the size and interval of doses according to the following principles. Small or single rises of temperature, slight transient albuminuria, and fleeting erythemas must be regarded as focal reactions and the next dose given after disappearance of the symptoms. Gastro-enteritic disturbances, dermatitis, and persistent albuminuria indicate metallic intolerance, and call for an increased interval and a similar or smaller dose. Repetition or multiplicity of intolerance symptoms indicates metallic saturation and compels cessation of treatment. Sayé claims to have reduced the intolerance symptoms to 10 per cent. and rarely to experience saturation syndromes, the appearance of which has also a prognostic value. The importance of the effect on the early exudative lesion—which is in line with the work of Gravesen and Christensen—cannot be overestimated. Routine examination of contacts and the "supposed healthy" is becoming established in America and Germany, and will undoubtedly develop in England. In this way the "early cases" so eagerly clamoured for will be discovered and the problem of dealing with them bound to arise. While Sayé admits the possibility of a spontaneous cure in a number of these, clearly no method is yet available for distinguishing the two types, so that "ambulant" chrysotherapy may offer us the best and most convenient solution. Professor Sayé's book has a lesson to teach, and it is to be hoped that an English translation will soon make its Spanish contents available to English readers.

GEE'S DISEASE

Eponyms are of more historical than everyday value, and therefore often tend to die out when the nature of the disease, the sign, symptom, instrument, or what not becomes more definitely established. Some, however, appear to be permanent exceptions, such as Bright's disease, which has an umbrella-like character, covering a number of physical sins; Graves's disease, which is less committal than exophthalmic goitre; and Addison's disease. Samuel Gee, an outstanding clinical teacher and personality at St. Bartholomew's Hospital in the last quarter of the nineteenth century, is an example of one whose name is now but little known eponymously. It was not ever thus. At one time posterior non-tuberculous meningitis was known as Gee and Barlow's disease, from their description in 1878 of what Still subsequently showed to be a chronic form

of meningococcal meningitis. Gee's linctus was at the beginning of this century widely used for a mixture of equal parts of tinct. camphor. co., syrup of tolu, and oxymel of squill, the origin of which, according to tradition, was that a hospital patient mentioned the superior qualities and the miraculous cure obtained from the medicine given by the village lady bountiful, who on inquiry revealed its composition, and thus insured its further employment at St. Bartholomew's Hospital. A somewhat similar linctus at St. George's Hospital was once familiar as (J. W.) Ogle's drops. These are examples of how great clinicians may be best known on account of their least profound achievements. Addison's, or more correctly Baillie's, pill is another. In 1932 Izod Bennett, Donald Hunter, and Janet Vaughan¹ contributed a monographic and well-illustrated account of "idiopathic steatorrhoea (Gee's disease)," which Gee² described in children as coeliac disease in 1888, and C. A. Herter rediscovered twenty years later. The valuable article in 1932 was based on fifteen adult cases. In September last Izod Bennett³ published, under the sole title *La Maladie de Gee*, a shorter account of this complex metabolic disorder. Thus may be revived abroad, and in a country where Trousseau in the past generously introduced the eponyms "Graves's disease" and "Addison's disease," the memory of a great British physician whose name in this country should be kept green by the collection of "Gee's aphorisms" made by his pupil and follower Lord Horder.

CARBON DIOXIDE FOR THE NEWBORN

The introduction of carbon dioxide in oxygen in a proportion of 5 to 7 per cent. for the treatment of various types of respiratory failure has an obvious application in the newborn, and workers in various centres have not been slow in availing themselves of this method. There are, however, certain details to be observed, which are well set out in a recent article⁴ from Bordeaux by Drs. G. Péry, J. Cardus Llanas, and J. Duffour, the last-named being a "chemical engineer." The first step in the treatment of respiratory failure in the newborn, according to these authors, is to clear the respiratory passages of all obstruction, especially that by mucus. It is pointed out that excessive mucus provides a barrier through which carbon dioxide cannot penetrate, and it is also recognized that the pressures used in the insufflation of the carbon-dioxide-oxygen mixtures may well drive mucus still deeper into the pulmonary tissues unless it is first removed. While this principle is a most important one, it cannot be said that the method advised—nor any of those commonly employed—constitutes the ideal. The authors recommend that the baby be suspended by the feet and the back rubbed to encourage the passage of mucus to the pharynx, from which it is removed by means of a finger wrapped in gauze. Then a special insufflation tube is introduced into the trachea. It is obvious that, as such a measure appears to be necessary, a suction apparatus might well be then applied to extract mucus without such disturbance of the child as is indicated by the

¹ Bennett, T. I., Hunter, D., and Vaughan, J. M.: *Quart. Journ. Med.*, 1932, N.S., i, 603.

² Gee, S.: *St. Bart's Hosp. Rep.*, 1888, xxiv, 17.

³ Bennett, T. I.: *Presse Méd.*, Paris, 1934, xlii, 1459.

⁴ *Journ. de Méd. de Bordeaux*, April 30th, 1934, p. 315.

manipulations referred to. To the insufflation tube is attached a neat metal device consisting of a tube with a side inlet connected to the supply of carbon dioxide and oxygen. There is a movable inner tube, open to the air and also with a side opening. When this is depressed by the finger or thumb the carbon dioxide mixture flows into the trachea; when released, a spring raises the inner tube and closes the inlet, and expired air escapes through the upper opening, from which the finger or thumb has been withdrawn. The supply of carbon dioxide and oxygen (5 to 7 per cent.) is contained in a rubber bag of five-litre capacity. During the inspiration phase the attendant presses down the metal tube with one hand and with the other squeezes the rubber bag with whatever pressure is deemed necessary for the individual child. During the expiratory phase the hand pressing on the metal tube releases this, while that used for the rubber bag is now transferred to the chest of the infant to compress the thorax. Artificial respiration is continued in this way until a satisfactory cry is produced. It is then recommended that the insufflation tube be removed and further carbon dioxide and oxygen given, by means of a mask if necessary. In the conclusions to the paper the authors also suggest that, if no response is obtained after artificial respiration in the manner described, lumbar puncture should be performed, followed by repeated measures to stimulate breathing. This would appear a drastic way of reducing intracranial pressure which, at such a period in neo-natal life, must be due to a large haemorrhage. The important points brought out by the authors are the absolute necessity of clearing all obstruction from the respiratory tract and the value of positive pressure insufflation into the trachea. The method recorded is certainly an advance towards the ideal when a combined suction and insufflation apparatus can be satisfactorily elaborated.

BILHARZIA DISEASE IN ENGLAND

Dr. J. B. Christopherson and Mr. R. Ogier Ward have lately published a note¹ on bilharzia disease in England, in which they describe the case of a young man who, on his return home to England from South Africa, suffered several attacks of haematuria and pain in the loins. Ova of *Schistosoma haematobium* were discovered in the urine by Dr. Cuthbert Dukes, and the authors give an account, with coloured illustrations, of the cystoscopic appearance of the bladder before and after intravenous injections of sodium antimony tartrate. The patient was kept under observation after treatment, and three years later, when last seen, he was in normal good health, and had been free from all urinary symptoms since the course of antimony. Bilharzia disease, though it not infrequently crops up in England, is always imported. There is on record nowhere a well-established case of the infection having been contracted in the British Isles. Biologically, the authors say, it would not appear impossible for the disease to thrive and to pass from one person to another in this country. "There are stretches of fresh water—for example, at Frensham and Fleet in Surrey, and in other localities—where soldiers bathe whilst at home from abroad in water which harbours species of snails which,

given the opportunity, might function as the necessary intermediate hosts; but there are few days in the year when the miracidium in the ovum would hatch out and survive in the free state and infect the snails. The British climate preserves the country from endemic bilharzia disease."

LET THERE BE LIGHT!

Directors of research laboratories are not commonly noted for powers of vivid expression either in the spoken or in the written word. Dr. Matthew Luckiesh is an exception to this generalization. Since 1915 he has written a series of books on lighting. Some have dealt with the technical aspects of the matter, in others he has sought to bring technical achievements in illumination to the notice of the public. His latest book, *Seeing and Human Welfare*,¹ is a typical piece of propaganda. His theme is the folly, the costliness, and the danger of working or allowing anyone to work in a poor light; and the wisdom, the economy, and the safety of providing a superabundance of light. In a former book his enthusiasm for artificial lighting led him to suggest its superiority over the variable natural light for interior illumination. Here his text might be the splendour of sunlight and the poverty of our common conception of artificial light. The intensity of illumination at midday in summer has been nearly as high as 10,000 foot-candles; even in the shade of a tree it is about 1,000 foot-candles. Daylight indoors is restricted by windows, and its distribution is often unsatisfactory; there may be 200 foot-candles near the window, and only 2 foot-candles ten feet away. A 100-watt lamp may give a light equivalent to 100 candles at a distance of one foot, but the intensity of illumination ten feet from it is about the same as that of one candle at a distance of one foot—a wholly inadequate light for detailed work. Dr. Luckiesh discusses the visibility of objects and the illumination required for various types of work. In all categories he demands standards about twice as high as are commonly accepted; and his standards, he says, are not ideal.

LEWISHAM HOSPITAL

Lord Dawson of Penn asks us to give him an opportunity—and we gladly do so—of amplifying his speech at the opening of the Lewisham Hospital extension on October 9th.² "To praise Dr. Nockolds, the medical superintendent," Lord Dawson says, "is no mere compliment; the Lewisham Hospital owes a large part of its attainments and reputation to his excellent administration. In my reference to the matron I wished to pay tribute to the admirable nursing school at the Lewisham Hospital and the educational reputation it has gained under her direction."

The fifth annual reports of the National Radium Trust and Radium Commission, for the year 1933-4, are published to-day by H.M. Stationery Office (Cmd. 4711. 9d.).

¹ *Seeing and Human Welfare*. By Matthew Luckiesh, D.Sc. Baltimore: The Williams and Wilkins Company; London: Baillière, Tindall and Cox. (11s. 6d.)

² *British Medical Journal*, October 13th, p. 684.

¹ *British Journal of Surgery*, 1934, xxi, No. 84.

ONE HUNDRED AND THIRD ANNUAL MEETING
of the

British Medical Association

MELBOURNE, 1935

THE British Medical Association will hold its 103rd Annual Meeting in Melbourne, Australia, during the week beginning September 9th, 1935, under the presidency of Sir Richard Stawell, K.B.E., M.D., consulting physician to the Melbourne Hospital. On three occasions—in 1897, 1906, and 1930—the Association has met outside the British Isles, and each time in a Canadian city. The Sectional sessions for scientific and clinical work will be held on Wednesday, Thursday, and Friday, September 11th, 12th, and 13th, the mornings being given up to discussions and the reading of papers, and the afternoons to demonstrations. The Annual Representative Meeting for the transaction of medico-political business will take place in London at the Association's House on Friday, July 19th, and following days.

Members travelling to Australia through the United States will sail for New York from Southampton on Saturday, July 27th; if travelling by the Canadian route to San Francisco, they will sail for Montreal from Liverpool on July 26th, or from Glasgow on July 27th. Particulars of the two routes were given in our *Supplement* of March 10th. All arrangements in connexion with the journey are in the hands of the Financial Secretary and Business Manager, B.M.A. House, Tavistock Square, London, W.C.1, to whom early application should be made for further details, and for reservation of places on steamers and trains and at hotels. Members who cannot afford to be away for the whole time of the "round-the-world" tour, but who wish to attend the meeting, may leave London on August 8th, travelling overland to Toulon and embarking there on a P. & O. liner which arrives at Fremantle on September 3rd. The journey on to Melbourne takes three days by rail, so that those who follow this route will reach their destination on September 6th, three days before the meeting opens. On the social side those responsible for organizing the Melbourne programme are making every effort to ensure that the event shall be worthy of the occasion, and a very warm welcome may be counted on from our Australian colleagues. During the outward and homeward journeys the official B.M.A. party from the British Isles hopes to establish personal contact with many other Branches of the Association.

The honorary local general secretary for next year's Annual Meeting is Dr. J. P. Major, Medical Society Hall, East Melbourne, Victoria. The names of the Presidents of the fourteen Scientific Sections were given in the *Supplement* of August 25th; and the full list of officers, with provisional programmes, etc., will appear in subsequent issues. We publish below the first of a series of descriptive and historical articles on the city of Melbourne and its medical institutions.

A HISTORICAL SKETCH OF THE CITY OF MELBOURNE

For forty-five years after the first settlement of Australia the fertile region which is now the State of Victoria remained practically unoccupied. Twice had an official outpost been established on its shores, only to be withdrawn again after a short period; and once, in 1824-5, an exploratory journey from the outlying settlements of New South Wales had revealed the country lying back from the coast as well fitted to carry the flocks and herds which were becoming the principal pre-occupation of enterprising settlers. From the island colony of Tasmania, where accessible sheep-lands were limited, longing eyes were being cast on the virgin pastures just across the straits; and at length, in November, 1834, the ice was broken by a bold adventurer, who planted himself on the shores of Portland Bay. A few months later several Tasmanian colonists visited Port Phillip to view the country, and in September, 1835, two rival parties, organized respectively by John Batman and John Pascoe Fawkner, camped side by side on the banks of the Yarra River at the head of Port Phillip Bay. From this encampment sprang up a small straggling village of turf huts and one or two weatherboard houses, which was the progenitor of the city of Melbourne.

It was the policy of the British Government at that time to discourage the dispersion of settlers beyond certain defined limits in New South Wales, and in duty bound the Governor of the Colony issued a notice warning off the intruders from the south. At the same time he wrote to the home authorities pointing out the impossibility of restraining the spread of pastoral occupation, and suggesting that he should be authorized to bring the new-

comers under official control by establishing a regular township on the southern coast. This suggestion was adopted, and in September, 1836, twelve months after that first encampment at Port Phillip, Sir Richard Bourke sent a police magistrate thither to take charge of affairs.

In March, 1837, the Governor himself journeyed south to decide upon the site of the new town. "I found on my arrival on the spot selected for a settlement . . . on the banks of the Yarra River," he reported to the Secretary of State, "an assembled population consisting of from sixty to seventy families. The situation appearing to be well chosen, I directed a town to be immediately laid out, which your Lordship will perceive from the map has received the name of Melbourne." Streets were pegged out without regard to existing habitations, and on June 1st, 1837, the first sale of building allotments was held. With the country round about it filling up with pastoralists from Tasmania and also from the older settlements of New South Wales, the new town made at first phenomenal progress. By the end of 1839 it must have had a population of something like 3,000, and in 1842 it was deemed of sufficient importance to be incorporated and to have a mayor and town council.

Notwithstanding the wave of financial depression which followed the "boom" of the early 'forties, Melbourne had by 1845 acquired several respectable places of worship, a theatre, and one or two substantial Government buildings. The official census of the following year showed a population of 10,000; and in 1848 the town was made the see of the bishop and raised to the dignity of a city.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

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PATIENT AND DOCTOR*

BY

SIR HENRY BRACKENBURY, M.D., LL.D.

A short time ago I received, in common, I suppose, with a great many of my professional colleagues, as part of an advertisement from a firm of wholesale druggists, a reproduction of an old cartoon which depicted the doctor in three aspects: as an angel when called to the bedside of a sick man, as a god when the cure had been effected, and as the very devil when presenting his bill. Whatever other implications there may be in such a presentment it at least indicated this: that the relation between patient and doctor is of considerable importance, and that the reactions involved may be of a somewhat violent character and demonstrate an emotional rather than a rational basis. It is the nature and the consequences of these relations and reactions that I propose to consider with you for half an hour or so in a quite broad and general way; and I should like it to be clear that I shall not refer at all, except perhaps incidentally, to the relations between doctor and doctor—whether general practitioner, consultant, public health official, or research worker—or to the doctor as patient, or to the professional methods which should be (but are not) taught to a young medical practitioner for meeting the contingencies noted. Nevertheless, the importance of finding a place somewhere in the medical curriculum for suitable instruction in the first and third of these matters, in the interest of doctor and patient alike, cannot be overrated.

It is fundamental to note that the relationship we are considering is between a person who is a patient and a person who is a doctor, not one between healer and disease. No doctor in practice can be, or should be, a detached scientific observer dealing quite objectively with some morbid process taking place within a relatively uninteresting vehicle, which is the patient's body. The patient's general attitude should not be that indicated by the question: "What disease have I got, and will you cure it?" It should be that shown by such a question as: "Will you try to discover why I am ill, and help me to restore my health and keep it?" The doctor should be regarded primarily and mainly as an expert helper and health adviser, rather than as a disease curer. The picture of the doctor at the bedside as a helpful and comforting angel may still, I hope, be largely true, but to depict him as an almighty being exorcising a disease by

some mysterious or magic procedure, or effecting a cure himself without reference to the patient or his attendants, is in almost every case an irrational and outrageous caricature.

Further, since this relationship is one of persons, it is essential to have regard not merely to the body but to the whole personality. It is never the body only which is out of health, but always the person. Each of us has a psyche; and however you may analyse or subdivide this, and by whatever name you call it—whether consciousness, mind, soul, spirit—it partakes of the physical disturbance, and inevitably and invariably constitutes part of the problem with which both patient and doctor have to do. Indeed, we have come to recognize that in a large proportion of cases of ill-health it is the psyche which is primarily affected, and that physical changes may be only secondary or subordinate thereto.

Qualities Expected of a General Practitioner

Such, then, being the composite problem presented by every patient, and such being the main function to be exercised by the doctor, what are the principal qualities which a patient should, and usually does, look for in his doctor? I am afraid that if I were to try to enumerate these you would think I was presenting you with the portrait or character-sketch of an individual purely ideal, impossible of realization; and yet—"What a piece of work is a man, how noble in reason, how infinite in faculties, in form and moving, how express and admirable in action, how like an angel in apprehension, how like a god"—it is one of the wonders of our profession that you so often find him. Let us attempt an appreciation of some of these qualities—knowledge, skill, carefulness, judgement, understanding and sympathy, and moral character—and let us have in mind primarily the general practitioner or family doctor.

(a) FULLNESS OF KNOWLEDGE

The basis of successful practical work in medicine can only be a thorough scientific training. All great doctors have not only been the products of such training, but have realized the need for pursuing their scientific studies ceaselessly. It is to me somewhat astonishing that in the midst of strenuous professional work to-day so large a proportion of what I may call average doctors do in fact find it possible, by one means or another, to keep pace with the continuous, and at times rapid, advance in the science and art of medicine and surgery. Doubtless part of the explanation is that if a man did not so keep pace he would be rapidly overhauled by a younger generation. It is axiomatic, then, that sound and extensive knowledge

* Inaugural address given at the opening of the fifth session at the Hampstead General and North-West London Hospital, October 17th, 1934.

must be the foundation of a doctor's equipment. If I say that, in the case of a general practitioner, this knowledge should be full rather than deep (as I use the terms), I must not be understood to mean that it need not be more than shallow. There are degrees of depth and degrees of fullness, and all that I wish to suggest is that the knowledge a patient may properly look for in his family doctor, while in no sense inferior in kind to that required of a consultant or specialist, should be characterized by fullness over a wide field rather than by depth over a smaller area. This, of course, involves the ability to appreciate the occasions on which there is needed a knowledge still more profound in the smaller areas contained within the field.

(b) JUDGEMENT AND SKILL IN THE APPLICATION
OF KNOWLEDGE

The power of a doctor to apply his knowledge is of at least equal importance to its possession. This presupposes the qualities of skill and judgement. When I use the word "skill" in this connexion I am thinking mainly, though by no means entirely, of manual skill; and of such skill not with reference to major operations, which may properly be held to require special training and experience, but with regard to such things as sufficient expertness in the examination of the eye, ear, throat, and other parts of the body; such procedures as intravenous medication and lumbar puncture; and those many minor surgical operations which are common necessities, and of which, therefore, every general practitioner has the opportunity of considerable experience. It seems to me wholly unreasonable, inconvenient, and disadvantageous that a patient should be compelled in such cases to consult or employ a number of different doctors, except in quite special circumstances. By "judgement" I mean the faculty of making with reasonable promptness a considered and wise decision.

In the practice of medicine some lack of knowledge or imperfection of skill, some erroneous inference or minor error of judgement, has occasionally to be recognized, understood, and forgiven; but what the patient has a right to expect from his doctor in every instance is carefulness in making a complete and thorough investigation into his condition. It is gross negligence in this direction which, I think, can alone justify the bringing of an action for malpractice against a doctor; and, short of such action, it is impossible to blame a patient who takes a serious view of such failure.

(c) SYMPATHY AND UNDERSTANDING

Knowledge, skill, and carefulness can, within reasonable limits, be acquired by a student at his medical school; indeed, many as are the improvements required in medical education, it may be said that in respect to these three things there is, in the best British schools, no deficiency which might not easily be made good. Understanding and sympathy, however, and wisdom or judgement in the application of knowledge and skill, and in the direction and expression of sympathy, cannot be taught in the same way. These are qualities which depend largely upon innate characteristics or upon early environment and upbringing. They can be encouraged and cultivated, but they can scarcely be created in a student by the medical staff of a school or hospital. Yet they are essential possessions for every good doctor, and are fundamental requirements made of him by almost all patients. It is by no means invariably the case that the most learned physician or the most highly skilled surgeon proves to be the best medical adviser.

What is it, in this regard, that the doctor is required to realize and understand? To answer this question in full would be to describe something of the personality of every patient, and to follow the whole content and activity of his mind. Each patient in some degree is undergoing a mental strain, often quite severe, and altogether out of proportion to his physical illness or injury. This is something of which it is important, even urgent, that he should be relieved, and if a doctor sets out to influence a patient's mind rightly he must certainly try to learn so far as he can what is going on in that mind. Medical schools ought

to pay much more attention to this matter, though it is true that the capacity to enter into the inner feelings of patients can only progress by an increasing experience, both of individual patients and of the vicissitudes of human life. There are just a few major points which may be indicated as requiring, in particular, the doctor's understanding and sympathy. These are: the patient's ignorance, his anxieties, his fears, his pain and discomfort.

The Patient's Ignorance and Emotional State

It is not easy for the doctor to realize the colossal ignorance of the laity of things which are to him ingrained or even axiomatic. I have sometimes thought that the lay mind, even if what is commonly regarded as well educated, is unable to form any sort of clear image of anatomical or pathological conditions; and this in spite of an extended attempt at popular health education and of a common use of medical terms and glib talk about illness, which seems to indicate that the layman is hardly aware of his own ignorance. This is an important matter; for it is not only a serious obstacle to a doctor giving a rational explanation to a patient of his condition (so often and so naturally demanded), but is the major cause of all the superstition, quackery, and nonsense in medical questions still so astonishingly prevalent among persons who, in other spheres of which they have more knowledge, are able to think logically and well.

The causes of illness seem easier for a layman to understand than are anatomical conditions and changes; and yet it has been said that even to-day patients know of only five actual causes of disease: chill, errors of diet, accident, fright, and medical treatment, this last being evidenced by the common attribution of most changes for the worse in an illness and almost every complication to the doctor's imperfect conduct of the case. Of course this is a little exaggerated, and there are worthy exceptions; but it is quite necessary to recognize that the patient's ignorance, even beyond what may reasonably be expected, has to be taken into consideration by the doctor in his efforts to appreciate and relieve his patient's state of mind.

The patient's anxieties and fears are at least equally real and important. Agitation may seize a patient even in the very act of making up his mind to consult a doctor at all; and anxiety as to the effect of being ill upon his work, his business, domestic duty, or upon finance, may loom very large. The fear of death does not, in my experience, usually become a great factor in the situation, unless it be occasionally as an aggravation of the anxieties just mentioned. At the time that I first entered upon private practice, some forty years ago, I fancy that the dread of tuberculosis, or consumption of the lungs, was the chief fear which occupied many a patient's mind. To-day this has almost disappeared, and the underlying fear is of appendicitis, or, much more pervasively, of cancer. The doctor learns, before long, that this last fear is in the mind of almost every woman of middle age who comes to consult him, and of a considerable proportion of men as well. Happily, in the great majority of cases, even without the fear being expressed, the doctor is able to give a confident reassurance, and he can almost always truthfully encourage even when he cannot dogmatically deny. The relief given immediately in this way by a wise doctor may be immense. Similarly, the fear of operation, or sometimes of the anaesthetic when operation is mentioned, may amount to terror, and greatly influence the patient's attitude and progress. No doctor should ignore or ride rough-shod over this.

Pain and the Mental State

When we pass to the patient's acute discomfort and pain, other considerations apply. We must recognize—even the patient must recognize—that pain may have its importance as Nature's means of pointing out the position and character of some bodily lesion, and that, as such, it may be a valuable indication which the doctor has to observe, weigh, and fit into the picture that he is drawing for himself of the patient's whole condition. My immediate point is, however, that this pain in itself,

quite apart from its underlying cause, may be so filling, and even warping, the patient's mind as to need the most prompt relief. And my further point is that not only should this relief be given as soon as may be, but that the constant preoccupation of the doctor on behalf of his patient should be to anticipate, to prevent, and to avoid pain and discomfort wherever possible.

It is no part of my present business to suggest the innumerable ways in which this can be done; but herein lies the reason that a patient's thankfulness often goes out to his nurse more than to his doctor, and why, I think, it might not be amiss if every doctor in the earlier part of his career had to experience in his own person one serious illness. It is of little use to tell a patient that he will be better to-morrow when it is a terror to him to live through the next five minutes. Every patient has a right to ask for the minimum of discomfort. I sometimes wonder whether in our hospital arrangements in this country we take sufficient notice of these mental stresses arising from ignorance, anxiety, various fears, discomfort, and pain. Are our arrangements all that they should be with regard to, say, the admission of a patient, the preparation for, or immediate recovery from, an operation; the administration of anaesthetics; the conduct of the solemn event of death, both in regard to the patient himself and to other patients in the same ward?

When I enumerated some of the qualities that a patient looked for in a doctor I followed "understanding and sympathy" with "moral character." I will not enlarge upon this, except to remind you of the old saying that "a good doctor must be a good man"; and of the fact that the General Medical Council was established by Act of Parliament entirely for the safety of the public, not for the protection of the medical profession, and that one of its duties is to keep the *Medical Register* pure, not merely by securing a minimum standard of medical education and qualification, but by removing from the *Register* the names of practitioners whose moral conduct in relation to the rendering of professional services has been proved to be a serious danger to the public.

The Consultant and the Patient

Hitherto, as I indicated, we have been thinking mainly, but not entirely, of the relation of the patient to the doctor who is a general practitioner or family medical adviser. When we consider the relation of a patient to a consultant or specialist, the picture is not quite the same. Though all the same qualities are essential in the doctor, their relative importance, or the respective emphasis to be placed on them, seems to me rather different. For example (I say it with some trepidation) sympathetic understanding does not need to be so pervasive; and knowledge and skill must be paramount; and (in the sense in which I have already explained the terms) deep rather than full. Within his chosen, less extensive—but not necessarily very narrow—sphere, the specialist's knowledge and skill should be expected to be as complete as is humanly possible. Though the connexions between his own field of practice and others must be thoroughly appreciated, it should be considered unwise for him to wander beyond his own domains.

Moreover, the relation between the patient and the consultant should, strictly speaking, be indirect. It should be established and continued through or in co-operation with the general practitioner. If I have succeeded in conveying to you a true idea of the respective and complementary functions of these two classes of medical practitioners and the character of the help that may properly be looked for from each of them, I do not see how you can fail to agree that the not uncommon practice of certain patients of going direct to a consultant or specialist, or to a number of such medical practitioners, in accordance with the patient's own suppositions as to what may be the matter with him, may be extremely unwise.

I will only add that since all these qualities are being demanded of the doctor at all times, and all the time, you must try to forgive him if, either in alertness or in patience, he very occasionally falls below his best.

Attitude of Patient to Doctor

Turning to the other side of the picture, my non-medical hearers will be relieved to know that in the mutual relations between patient and doctor the qualities expected in a patient are much less numerous and exacting than those which I have suggested may properly be required in the doctor. The essence of the matter is co-operation; and to assure this the doctor is entitled to ask for the patient's obedience and confidence. I do not mean, nor does a doctor expect, implicit and unquestioning obedience or uncritical confidence, but those qualities shown and exercised in accordance with a helpful common sense. Horace Walpole tells us: "I have had a severe attack of the gout, and could not sleep. I consulted my physician: he advised me not to use opium. As soon as he was gone I sent out for some. I took it (five grains if memory may be trusted), have slept well, and am almost recovered." I imagine that the conduct of that foolhardy character, acting in a manner directly contrary to the advice given, is unlikely to-day in anyone who consults a doctor at all; but I suspect that a more passive form of disobedience has considerable prevalence still. If the patient has doubts or disinclinations it is far better to express them and seek explanation by relevant questions; no other course is fair to the doctor.

Mutual confidence between patient and doctor is of the first importance for successful medical relationship and treatment. It is for this reason that the medical profession has insisted, and is insisting so far as it can in all schemes for providing medical attention, on as wide a freedom of choice of doctor by patient, and of patient by doctor, as can be reasonably afforded. This is just as important in the case of the poor as it is in the well-to-do. This confidence is a subtle thing, but it involves on the patient's side complete truthfulness as to the disclosure of all relevant facts, and on the doctor's side complete sincerity and as much truthfulness as is compatible with his other responsibilities. In the interests of his patient he cannot always be completely frank as to his opinions and conclusions, and he must not disclose the doubts and hesitations which in many cases he is bound to feel. A conscientious doctor may often find this attitude difficult. He must cultivate a confidence in his own judgement; and he should be aware how closely a patient studies his doctor's frame of mind, and often watches anxiously for every change of expression, look, and voice. A doctor should not attempt to inspire a patient's confidence by becoming an actor: sincerity is all; and most patients are quite capable of noting when a doctor's self-confidence merges into self-conceit, or even develops into megalomania.

Of the doctor as the devil who presents his bill I will say nothing, beyond making a few statements that I believe you will accept: that his services can often be only very inappropriately measured in guineas and shillings; that he is worthy of his hire, but has no delight in asking for it; that it may be one of the joys of health insurance practice that he can give his full attention to his patients without worrying about the presentation of an account; that he is usually considerate and patient; and that he is often placed in a difficult position, even when he tries to be kind. An example of the latter was given in the *Times* a short time ago; a doctor said he had rendered an account for attendance on two maiden ladies, giving them a large reduction on his usual charge, and that he had received in reply a letter which ran: "We are not paupers, and do not like being treated as such: we shall therefore seek the services of another doctor in future."

The General Practitioner in Public Health Administration

I had hoped, in conclusion, to refer to another aspect of my subject, but time will not permit me to do more than mention what I should like to have dealt with a little more fully. There is a very real sense in which it is legitimate and useful to regard the community as the patient, and the organized medical profession—whether of the whole nation or in any individual local government area—as the doctor. The health activities of the community as a whole have now become very numerous and

varied. They have extended far beyond matters of sanitation and the control of epidemic disease to which they were at first confined. For purposes of administration and for some others in connexion with public health it is necessary to have whole-time medical officers appointed for specific duties. There is a tendency to extend this method of providing medical attention in what I believe to be a wholly unjustifiable and disadvantageous way. There are now some forty Acts of Parliament under which duties in relation to the public health are imposed upon registered medical practitioners as a class, sometimes without any corresponding remuneration or even with penalties attached for failure to perform them. Many of these duties are directed towards gathering information as to the common health. It is appropriate to look to the practising doctors of any area for such a purpose. They, and in some directions they alone, have first-hand information—for example, as to prevalent disease, imperfect sanitary conditions, defects in personal and domestic hygiene. I suggest that it is equally reasonable and useful, as the community extends its activities into fields where the work is purely or overwhelmingly of a clinical character—that is, where it has to do with the medical examination and treatment of individuals—that it should use for these purposes not selected whole-time officials, but rather the whole body of doctors of the area, whether general practitioners or specialists, in so far as they can, and will, undertake the duties required. It is exactly those duties for which they have all been trained, and of which they have the widest and most valuable experience. They have, moreover, established a professional organization in order to place these collective services more readily at the public disposal. There has grown up a tendency in the sphere of public health, and to a less extent in the sphere of hospital work, to draw far too rigid a line of demarcation between the work of those who are devoting themselves to specific service within one or other of those spheres, and the work of the general body of doctors outside. It is important that this condition of isolation or separation should be broken down. It is not good for the doctors; but it is the patient who suffers, whether that patient be the community as a whole or an individual member thereof.

THE INSURANCE MEDICAL SERVICE WEEK BY WEEK

Certification of Patients in Hospital

On more than one occasion we have referred to the danger which must be guarded against when a printed form of certificate is in constant use; familiarity with the form may lead the person who signs it to overlook the content of the form to which he is putting his signature. A case in point has recently arisen where the practitioner gave certificates in respect of a patient who was in hospital, certifying that he had examined him on a series of dates when in fact he had not done so. From the report of the Medical Service Subcommittee, which has held an inquiry into the case, it appeared that the practitioner, after having his attention drawn to the irregularity attributed to him, expressed the opinion that it would be proper for him to give certificates on the printed form to the relatives of the patient who was in hospital, provided that he deleted from the certificate the words indicating that he had examined the patient on a specific date. Upon this the subcommittee comment as follows:

We have no doubt that he was imbued solely with the desire to assist his patient, but his action would be in direct contravention of the Medical Certification Rules. In such a case the practitioner has no knowledge, other than the information given to him by the patient's friends, that the patient is still in hospital, or indeed that the patient is still alive. The fact that an insured person is receiving treatment as an inmate of a hospital or similar institution would ordinarily be sufficient to justify a society regarding that person

as incapable of work, but in no circumstances is an insurance practitioner justified in giving a certificate of incapacity when a patient is in an institution and he has no opportunity of examining him.

The practitioner might perhaps also have been reminded that, under the Medical Certification Rules, he is expressly relieved of any obligation to give certificates to a patient who is in hospital and not under his immediate care; and, further, that it is the invariable practice for an approved society to accept as evidence of incapacity a statement by an official of the hospital that the insured person was an in-patient between certain dates.

A further subject of interest arose in the particular case to which we are making reference. The practitioner appeared genuinely to have been under the belief that the society was fully aware throughout the whole period that the member concerned was an inmate of a sanatorium. In a letter from the society to the Insurance Committee a statement was made that the practitioner's action misled, and was intended to mislead, the society. The imputation that the practitioner's action was intended to mislead the society was so obviously unfair and improper that it is a matter for satisfaction that, on the suggestion of the Medical Service Subcommittee, the representative of the society unreservedly withdrew the imputation at the hearing. The committee decided to warn the practitioner as to the necessity for strict compliance with the Medical Certification Rules, and suggested in its recommendation to the Minister of Health what is described as a "modified penalty" of £2, in view of the fact that the practitioner to a certain extent acted under a misapprehension of the position.

Alleged Failure to Examine

An approved society has caused to be brought before the Medical Service Subcommittee for London an allegation on behalf of an insured person that his practitioner failed to examine him. The case had its origin in a grievance on the part of the man that he could not get certificates of incapacity from his doctor, and therefore was unable to draw sickness benefit. This was obviously a contention which could not be made the subject of an inquiry by the Medical Service Subcommittee. Such a procedure would be a grave abuse of the medical service machinery. It is difficult to understand how an approved society could have made itself responsible for a complaint of this nature. No greater disservice could be done to approved societies than to make the action of a conscientious doctor, who was conserving their funds by his refusal to give a certificate, the subject of a formal complaint to the Insurance Committee. The case had to come before the Medical Service Subcommittee because the insured person insisted that the doctor did not examine him, and that he desired to attend before the committee to establish this contention. The committee's finding is as follows:

It was clear to us that having had the man under observation for a lengthy period the practitioner had genuinely formed the opinion that he was no longer incapable of work, and that he quite properly issued a final certificate on February 14th, 1934. The practitioner committed no breach of the Terms of Service for insurance practitioners, and we think that it is a matter for regret that he should have been put to the trouble of attending before us in order to refute a complaint which was frivolous and vexatious, and, in our opinion, should never have been brought.

Withdrawal of a Complaint

In a case in which an insured person applied for a refund of a sum of 9s. 6d. expended in obtaining treatment from an insurance practitioner, it appeared that the insured person had recently removed into the area in which this doctor practised, but that there were two versions as to what happened when he applied for treatment. According to the practitioner no question of treatment as for an insured person was raised until after he had provided treatment on the two days above mentioned, but the statement of the insured person was that his wife

asked the practitioner to accept him for inclusion in his list and received the reply that that would be done "after this is over." In the course of correspondence with regard to the case, the insured person wrote to say that the practitioner had called upon him, and that it was clear that there had been a misunderstanding; that the practitioner had refunded to him the amount of the fees paid, and the insured person trusted that this now settled the question in dispute. The Medical Service Subcommittee's report upon this matter ends with the following paragraph:

In view of the withdrawal of the question by the insured person owing to his having come to a settlement with the practitioner, we do not feel in a position to pursue this case. We take the opportunity, however, of expressing our disapproval of the method by which the case has been adjusted; and, but for the fact that we have no reason to think that the practitioner has acted throughout otherwise than in good faith, we should not have been content to allow the matter so to be disposed of. We have caused a communication to be addressed to the practitioner reminding him of his obligations under the Terms of Service in cases where application is made for treatment as for an insured person.

CONSULTANTS AND SPECIALISTS GROUP

CENTRAL COMMITTEE FOR ENGLAND AND WALES.

The voting by members in certain regions for direct representatives being completed, it is now possible to give the complete list of members of the Central Committee for England and Wales:

Members of the Council of the Association who are Members of the Group

Professor A. H. BURGESS, Manchester
Dr. R. G. GORPON, Bath
Dr. P. MACDONALD, York
Mr. R. L. NEWELL, Manchester
Sir ROBERT BOLAM, Newcastle-upon-Tyne
Sir EWEN MACLEAN, Cardiff
Dr. F. A. ROPER, Exeter
Mr. H. S. SOUTTAR, London
Mr. N. BISHOP HARMAN, London
Mr. E. W. G. MASTERMAN, London
Sir THOMAS DUNHILL, London
Mr. W. MCADAM ECCLES, London
Dr. C. O. HAWTHORNE, London
Dr. R. L. LANGDON-DOWN, London

Elected by the Members of the Group

Region	Candidates
1	Mr. A. HEDLEY WHYTE, Newcastle-upon-Tyne
2	Professor W. FLETCHER SHAW, Manchester
3	Mr. F. J. STONG HEANEY, Liverpool
4	Professor H. COLLINSON, Leeds
5	Mr. R. ST. L. BROCKMAN, Sheffield
6	No nomination
7	Colonel Sir HAMILTON A. BALLANCE, Norwich
8	Mr. J. L. JOYCE, Reading
9	Mr. C. A. MOORE, Bristol
10	Sir COMYNS BERKELEY, London Mr. VICTOR BONNEY, London Mr. W. S. HANDLEY, London Sir WILLIAM WILLCOX, London
11	Mr. FRANK HECKFORD, Ryde
12	Dr. T. H. G. SHORE, Plymouth
13	Dr. A. CLARKE BEGG, Swansea

The first number of volume xxxi of the *Journal of the Ceylon Branch of the British Medical Association*, edited by Dr. P. B. Fernando and published at Colombo, opens with the presidential address for 1934 by Dr. S. L. Navaratnam, on "The Practical Application of Preventive Medicine in Obstetric Practice."

THE HOSPITAL POLICY

At the first meeting of the session of the Hospitals Committee, held at the House of the British Medical Association on October 10th, Dr. Peter Macdonald, of York was unanimously recalled to the chair. In welcoming new members, who included the President of the Association (Dr. S. Watson Smith), Dr. Macdonald referred with pleasure to the fact that Sir Henry Brackenbury, no longer Chairman of Council and hence *ex officio* a member, had chosen the Hospitals Committee as one on which he desired to continue to serve, and accordingly had been elected a member of it by the Representative Body.

Certain suggestions were explored for the co-option of two additional members who might be taken to represent more particularly the public health service or the municipal hospitals, and it was left to the chairman to discover whether the persons named were willing to serve. Dr. Macdonald was again nominated to represent the committee on the Insurance Acts Committee, and Miss Elizabeth Bolton, Mr. McAdam Eccles, Dr. J. C. Matthews, and Dr. James Young were nominated as members of the Additional Benefit Subcommittee of the I.A.C., though it was not anticipated that that subcommittee would have much to do at present.

The chairman reported on his attendance, with the Medical Secretary, at the annual meeting of the British Hospitals Contributory Schemes Association at Bristol. He thought the presence of the Association's representatives was of value in continuing the cordial relations with that organization.

PROVIDENT SCHEMES FOR MIDDLE-CLASS PERSONS

The first of several resolutions of the Annual Representative Meeting which had to be brought to the attention of the committee was the one concerning the proposals for the establishment and development of provident associations. (The model scheme and notes thereon were published in the *Supplement* of October 6th.) It was suggested that in the title, "Provident Schemes for Middle-class Persons," it would be well to introduce the word "institutional" to differentiate these schemes from others which were being mooted for domiciliary treatment. It was the opinion of the committee that in so far as the model scheme remained in its Hospital Policy context there could be no confusion, but the scheme might be quoted apart from such Policy, and the chairman undertook to bring the suggestion for an amplified title before the Advisory Committee, which includes representatives of the British Medical Association, the British Hospitals Association, and the contributory schemes and provident organizations.

The recent Annual Representative Meeting also asked the Council to consider whether it would be possible to include in such schemes a definite limited payment to general practitioners for treatment given by them. The chairman said that at the Representative Meeting he had plainly intimated that he did not think it was likely that much could be done in this direction in addition to what was already provided, for a certain limited payment to general practitioners for certain forms of treatment already appeared in the scheme. It was clearly stated in the memorandum of association that the first object was the establishment of a fund whereby the cost of medical and surgical treatment, "other than general medical practitioner treatment," might be wholly or partially defrayed. He indicated willingness, however, to bring this matter also before the Advisory Committee.

THE HOSPITAL LETTER

The committee gave somewhat lengthy consideration to the resolution adopted at the Annual Representative Meeting, on the proposition of Birmingham Central, that a certain procedure for patients presenting themselves at hospital without a doctor's letter, and also a suggested form of letter to be sent from the hospital to such patients' doctors, should become the policy of the Association. The chief point at issue was that the form of letter which

Birmingham had proposed should be sent in these circumstances was different from—more elaborate than—the reply form issued already by the Association and which the Association had taken a great deal of trouble to get established as regular practice. It is true that the Association letter is attached to a form of letter from the doctor which is supposed to be brought by the patient, but the tear-off portion can be equally well used by consultant medical officers at the hospital in reporting to the doctor in cases in which the patient has not brought a doctor's letter. A strong view was expressed in the committee that if two differing forms of letter were issued there would be confusion, with the quite possible result that neither form would be used. If a member of a hospital staff had to consider in reference to each patient coming up for advice the use of alternate forms it might well prove disadvantageous to the point which the Association had laboured to secure.

The committee decided that, suitably edited so as to bring the phrasing in harmony with the main document, the suggestion for procedure indicated in the Representative Body's resolution concerning patients coming forward without a doctor's letter should be printed as an appendix to the Association's pamphlet *The Problem of the Out-Patient*, as approved by the A.R.M., 1931, but in view of the disadvantage of having alternative forms it was agreed unanimously not to include the Birmingham proposed form of letter at this stage, but to report to the Council, and through the Council to the Representative Body, the objections to so doing, and to ask the Representative Body to reconsider that particular point. The Representative Body's resolution did not specifically insist upon the Birmingham form, the words being "the following or some similar form," and it was the view of the committee that the form already established might serve both for the cases in which the patient brought a doctor's letter and those in which he did not.

PAYING PATIENTS IN VOLUNTARY HOSPITALS

The next resolution of the Annual Representative Meeting which was brought to the committee's attention was the one expressing disapproval of any schemes whereby medical attendance at voluntary hospitals for persons of the middle class under provident arrangements was limited to members of the medical staffs alone, rendering it impossible for paying patients to engage a private practitioner not on the staff as their medical attendant.

The chairman pointed out that the Hospital Policy [Appendix B, Section 2 (a)] gave a modified assent to hospitals taking in paying patients to be under the responsible care of the visiting staff with a certain amount of association with the private practitioner. The question was whether this was going to mean a difficulty to provident schemes.

It was recalled that this question was raised by Brighton at the Representative Meeting in view of possible legislation which would affect the admission of paying patients. The committee agreed with the concurrence of Dr. Fothergill, who was mainly responsible for the Brighton resolution—that, the Representative Body having put this principle on record, it would be the duty of the committee to test any proposed legislation or any schemes put up by the Charity Commissioners from this point of view, but that for the moment there was no occasion for action.

HOSPITALS AND DOMICILIARY ATTENDANCE

The only other matter which came forward from the Annual Representative Meeting concerned the threefold resolution regarding domiciliary attendance on discharged patients, a matter which had arisen from the committee's previous consideration of certain paragraphs in the report of the committee of the King Edward's Hospital Fund. The main point laid down in the resolution was that in no circumstances should patients who required further supervision or care after discharge, or who had been found not suitable for or not to require hospital treatment, be referred by the hospital authorities to any agent other than a medical practitioner. It was agreed to communicate the

decisions of the Representative Body to the King Edward's Hospital Fund and to incorporate them in the appropriate place in the Hospital Policy.

TREATMENT OF TRAFFIC ACCIDENT CASES

It was reported that representatives of the British Hospitals Association had met representatives of insurance companies and had arrived at a schedule for recommendation to hospitals for flat-rate payments for out-patient treatment of traffic accident cases. The fee for a first attendance (including dressings, splints, etc.) was five shillings, and for subsequent attendances (including simple dressings and inspections), two shillings, with special fees for x-ray examinations and out-patient operations.

The Assistant Medical Secretary explained the three enactments which govern the situation. The first, that of 1930, allowed up to £25 for in-patient treatment; the second, that of 1933, introduced payment for out-patient treatment up to £5, and raised the sum for in-patient treatment to £50; while the Road Traffic Act, 1934, contained a provision, rather by a side wind, giving 12s. 6d. for emergency treatment by a hospital. Presumably the negotiations with the insurance companies were started as a result of the Act of 1933—the Road and Rail Traffic Act—and the preliminary ground was covered before the amendment of the position by the Road Traffic Act, 1934, came about. It was decided to have conversations with the British Hospitals Association, and should any action appear necessary to consider the matter again in full committee.

THE ASSOCIATION'S CONSULTANTS' LIST

At its previous meeting the Hospitals Committee agreed to recommend to the Council that the facilities provided under the Consultants List for the metropolitan area should be extended to members of the Officers' Association who came within the income limits of the scheme, but the chairman of the committee withdrew the recommendation when it came to the Council, and now explained that he had done so because the Officers' Association included many persons above the income limit for guinea consultations. At the same time there were certain members of that body who were below the limit, or even indigent, and for whom special arrangements might be made.

The technical difficulty was pointed out that under the Consultants Scheme as approved by the Representative Body only organized entities could be recognized, and not certain individuals out of a total membership. It was agreed to explain the difficulties to the Officers' Association, and at the same time to suggest that it might form within its membership a benevolent section, to which recognition might be accorded.

OTHER BUSINESS

The committee had before it certain facts which had been ascertained by the Central Bureau of Hospital Information on the practice adopted in a number of voluntary hospitals with regard to the issue of certificates—both certificates for which a professional fee was charged and certificates issued gratuitously or for a modified fee. The practice was shown to be so varied that the committee considered it undesirable to lay down any rule as to payments in respect of such certificates.

A proposal to ascertain, on the basis of returns from certain selected practitioners in various parts of the country, the hospital requirements per unit of population was adjourned for further consideration.

The committee also postponed until its next meeting a question concerning the arrangements for treatment at out-patient departments of voluntary hospitals of patients for whom the local authority has assumed financial responsibility. This, however, is to be the first and most important item on the agenda of the next meeting, together with a suggestion by one member that the time has come for dropping the use of the term "proportion of fees to be paid to members of the staff," and using frankly the word "salary." The suggestion was not favoured by some other members of the committee, but it is to be debated on the next occasion.

Correspondence

THE GENERAL PRACTITIONER IN THE HOSPITAL

SIR,—I believe it is the policy of the British Medical Association that every doctor, where possible, should have the opportunity of attending his own patients when admitted into hospital.

I realize that this presents difficulties in the case of the larger hospitals, but I am concerning myself more with the position of the country practitioner who lives within a short radius of a small town hospital. In many cases all the doctors in the neighbourhood are entitled to treat their patients in these hospitals. But what too frequently happens is this: A staff of local G.P.'s is appointed, with one or two consultants from the neighbouring larger towns, and any other doctor practising in the neighbourhood is prevented from attending his own patients in the hospital by virtue of not being on the staff.

This state of affairs is by no means a just one; some of the more obvious reasons being (a) the members of the medical staff have usually no more claim to special skill than the non-members; (b) many of the patients who elect to be attended by non-members of the hospital staff pay into the hospital funds. When they require hospital treatment they are sent to a hospital in a larger town, as it is in the interest of neither patient nor doctor to hand them over to a rival practitioner to be attended in the local hospital. They thus lose the benefit of their local contributions. Of course I do not advocate every G.P. removing his patients' appendices, but many cases (medical and surgical) can be treated much more satisfactorily in a hospital than in a poor home. If we have to surrender all our interesting cases we must of necessity lose efficiency.

It is high time that this grievance of the country G.P. should be rectified, and my own case is by no means an isolated one.—I am, etc.,

COUNTRY DOCTOR.

Association Notices

BRANCH AND DIVISION MEETINGS TO BE HELD

BATH, BRISTOL, AND SOMERSET BRANCH: WEST SOMERSET DIVISION.—At Taunton and Somerset Hospital, Friday, October 26th, 4.15 p.m. Mr. James M. Wyatt: "Significance of Albumin in the Urine of the Pregnant Woman." 7.30 p.m., at Castle Hotel, Taunton, annual West-Somerset medical dinner.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—At Yeatman Hospital, Sherborne, Tuesday, October 23rd, 3.30 p.m. Papers by Dr. H. Chalke and Mr. J. Whittingdale, etc.

KENT BRANCH: DARTFORD DIVISION.—At City of London Mental Hospital, Stone, Dartford, Friday, October 26th, 8.30 p.m. Clinical meeting: B.M.A. Lecture by Dr. C. Langton Hewer: "Modern Anaesthesia."

KENT BRANCH: ISLE OF THANET DIVISION.—At White Hart Hotel, Margate, Thursday, October 25th, 8.45 p.m. Mr. C. P. Wilson: "Earache." Preceded by dinner at 7.45 p.m.

LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.—At 52, Hoghton Street, Southport, Friday, October 26th, 8.30 p.m. Mr. Geoffrey Jefferson: "The Specific Syndromes of Certain Intracranial Tumour Groups."

LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.—At Warrington Infirmary, Friday, October 26th, 8.30 p.m. Meeting regarding terms and conditions of scheme for public assistance domiciliary medical service, etc.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—At West London Hospital, Hammersmith, W. Tuesday, October 23rd, 8.45 p.m. Clinical meeting.

NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.—At Cottage Hospital, Bishop Auckland, Friday, October 26th, 8 p.m. Report on Annual Representative Meeting by Dr. F. Lishman.

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.—At College of Medicine, Newcastle-on-Tyne, Thursday, October 25th, 9 p.m. Annual reception and dance.

SUSSEX BRANCH: BRIGHTON DIVISION.—Friday, December 21st. B.M.A. Ball.

THE COMING ELECTIONS TO THE GENERAL MEDICAL COUNCIL: ENGLAND AND WALES

The following is a supplementary list of those officers of the British Medical Association, of Local Medical and Panel Committees, and others, who have signified their intention to support the candidatures of Sir Henry Brackenbury and Mr. N. Bishop Harman in the forthcoming elections of direct representatives for England and Wales on the General Medical Council:

Chavasse, Dr. F. B., Liverpool, Member of Ophthalmic Committee.
Harrison, Dr. G., Gresford, Secretary L. M. and P. Committee.
Howell, Dr. R. E., Middlesbrough, Division Chairman.
Hunter, Dr. W., Sunderland, Division Chairman.
McCarthy, Dr. S. W., Deri, Glm., Representative
McCrea, Dr. J., Representative and Chairman L. M. and P. Committee.
McVey, Dr. J. P., Smethwick, Chairman L. M. and P. Committee.
Merrick, Dr. A. A. W., St. Helens, Representative, Division Secretary.
Phillips, Dr. P., Bristol, Division Chairman.
Pollock, Dr. A. M., Tunbridge Wells, Division Secretary.
Rogers, Dr. A., London, Division Chairman.
Taylor, Dr. C., Coventry, Division Secretary.
Weatherley, Dr. L. A., Bournemouth, Member Branch Council.

The October Election

There are two candidates for the first election, which will take place on October 23rd, on which date voting papers will be issued by the General Medical Council to members of the profession in England and Wales—namely: Mr. N. Bishop Harman, London; Dr. E. A. Gregg, London.

British Medical Association

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE
TAVISTOCK SQUARE, W.C.1

Departments

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).
MEDICAL SECRETARY (Telegrams: Medisecra Westcent, London).
EDITOR, BRITISH MEDICAL JOURNAL (Telegrams: Aitiology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Euston 2111 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 7, Drumsheugh Gardens, Edinburgh: (Telegrams: Associate, Edinburgh. Tel.: 24361 Edinburgh).

IRISH MEDICAL SECRETARY: 18, Kildare Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 62550 Dublin.)

Diary of Central Meetings

OCTOBER

- 19 Fri. Spa Practitioners Group Committee, 11 a.m.
- 23 Tues. Naval and Military Committee, 2 p.m.
- 25 Thurs. Library Subcommittee, 2.30 p.m.
- 26 Fri. Public Health Committee, 2 p.m.

NOVEMBER

- 7 Wed. Council, 10 a.m.
- 9 Fri. Fractures Committee, 2.30 p.m.

DIARY OF SOCIETIES AND LECTURES

ROYAL SOCIETY OF MEDICINE

Section of Odontology.—Mon., 8 p.m. Inaugural Address by the President, Mr. Frank Coleman. Mr. H. Stobie: A Tumour of the Palate.

Section of Medicine.—Tues., 5 p.m. Discussion: The Ultimate Prognosis of Coronary Occlusion. Opener, Professor John Hay (Liverpool). Other speakers: Dr. T. F. Cotton and Dr. B. T. Parsons-Smith.

Section of Comparative Medicine.—Wed., 5 p.m. Presidential Address by Professor J. B. Buxton: Some Aspects of the Role of Tuberculin in the Control of Tuberculosis.

Section of Urology.—Thurs., 8.30 p.m. Presidential Address by Mr. J. B. Macalpine: Musculature of the Bladder in Health and Disease.

Section of Disease in Children.—Fri., 5 p.m. (Cases at 4.30 p.m.)

CAMBRIDGE MEDICAL SOCIETY.—At Addenbrooke's Hospital, Cambridge, Fri., 2.30 p.m. Mr. V. C. Pennell: Movable Kidney. 4 p.m., Unveiling of Arthur Cooke Memorial Plaque by Dr. G. S. Haynes.

INSTITUTE OF MEDICAL PSYCHOLOGY, Malet Place, W.C.—Tues., 6 p.m. Professor C. G. Seligman, F.R.S.: Psychology and Racial Differences.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—*Mon.*, 8.30 p.m. Discussion on the Anaemias and their Treatment, to be opened by Dr. Leslie Witts.

MEDICO-LEGAL SOCIETY.—At 11, Chandos Street, W., *Thurs.*, 8.30 p.m. Dr. C. Ainsworth Mitchell: Use of Invisible Rays in Criminology.

ROYAL INSTITUTE OF PUBLIC HEALTH AND INSTITUTE OF HYGIENE.—At 28, Portland Place, W., *Wed.*, 3.30 p.m. Mr. Aleck W. Bourne: Ante-natal Care as a Branch of Preventive Medicine.

ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester Square, W.C.—*Wed.*, 4.30 p.m. Clinical Cases.

POST-GRADUATE COURSES AND LECTURES

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.—*Medical Society of London*, Chandos Street, W.: *Tues.*, 2.30 p.m., Lecture-Demonstration by Dr. Clark-Kennedy on Convulsions; *Wed.*, 3.30 p.m., Lecture by Professor R. J. S. McDowall on General Principles of Dietetics. *St. John's Clinic and Institute of Physical Medicine*, Ranelagh Road, S.W.: 8 p.m., Evening Lecture-Demonstrations in Physical Medicine. *St. John's Hospital for Diseases of the Skin*, Leicester Square, W.C.: Post-Graduate Course in Dermatology, afternoons and evenings; lectures at 5 p.m. *Chelsea Hospital for Women*, Arthur Street, S.W.: All-day Post-Graduate Course in Gynaecology. *Hospital for Consumption*, Brompton, S.W.: All-day week-end Course in Diseases of the Chest. *Panel of Teachers*: Individual clinics in various branches of medicine and surgery are available daily. Courses of instruction are open only to members and associates of the Fellowship.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.—*Mon.* to *Sat.*, Intensive Course.

CHARING CROSS HOSPITAL MEDICAL SCHOOL.—*Sun.*, 10.30 a.m., Dr. E. C. Warner, Investigation and Treatment of Chronic Arthritis; 11.45 a.m., Dr. H. G. Everard Williams, Some Aspects of Medical Gynaecology.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—*Wed.*, 4 p.m., Mr. Geoffrey Keynes, Diagnosis and Treatment of Early Carcinoma of the Breast.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.—*Thurs.*, 3 p.m., Clinical Meeting. Demonstration by Dr. Douglas McAlpine.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL, Denmark Hill, S.E.—*Thurs.*, 9 p.m., Mr. St. J. D. Buxton, Causation of Limp.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester Square, W.C.—*Tues.*, 5 p.m., Dr. H. D. Haldin-Davis, Acne and Rosacea. *Thurs.*, 5 p.m., Dr. A. M. H. Gray, The Sarcoids and Lupus Pernio.

NATIONAL HOSPITAL, Queen Square, W.C.—*Mon.* to *Fri.*, 2 p.m., Out-patient Clinics. *Mon.*, 3.30 p.m., Dr. E. A. Carmichael, Physiology of the Sympathetic System. *Tues.*, 3.30 p.m., Dr. D. Denny Brown, Brain-stem Reflexes. *Wed.*, 3.30 p.m., Dr. J. S. Collier, Clinical Demonstration. *Thurs.*, 3.30 p.m., Dr. D. Denny Brown, Conditioned Reflexes. *Fri.*, 3.30 p.m., Dr. Bernard Hart, The Psychoneuroses.

ST. PAUL'S HOSPITAL, Endell Street, W.C.—*Wed.*, 4.30 p.m., Mr. Stanford Cade, Prognosis in Relation to Treatment of Cancer of the Bladder and Prostate.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, University Street, W.C.—*Mon.*, 4.15 p.m., Professor Charles Singer, Galen.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—*Daily*, 2 p.m., Medical and Surgical Clinics, Operations. *Mon.*, 10 a.m., Medical and Surgical Wards; Skin Clinic; 2 p.m., Surgical Wards, Eye and Gynaecological Clinics; 4.15 p.m., Lecture, Mr. Green-Armytage, Some Anxieties of Labour. *Tues.*, 10 a.m., Medical Wards; 11 a.m., Surgical Wards; 2 p.m., Throat Clinic. *Wed.*, 10 a.m., Medical Children's Clinic and Wards; 2 p.m., Eye Clinic and Medical Wards; *Thurs.*, 10 a.m., Neurological and Gynaecological Clinics; 11.30 a.m., Fracture Demonstration; 2 p.m., Eye and Genito-urinary Clinics; 4.15 p.m., Lecture, Mr. Steadman, Periodontal Disease. *Fri.*, 10 a.m., Skin Clinic; 12 noon, Lecture on Treatment; 2 p.m., Throat Clinic; 4.15 p.m., Lecture, Dr. Owen, Jaundice and Haemorrhage in the Newborn. *Sat.*, 10 a.m., Medical and Surgical Wards, Children's and Surgical Clinics. The lectures at 4.15 p.m. are open to all medical practitioners without fee.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTE-NATAL CLINICS.—Royal Infirmary: *Mon.* and *Thurs.*, 10.30 a.m. Maternity Hospital: *Mon.*, *Tues.*, *Wed.*, *Thurs.*, and *Fri.*, 11.30 a.m.

MANCHESTER: ANCOATS HOSPITAL.—*Thurs.*, 4.15 p.m., Dr. W. J. S. Reid, The Borderline Patient.

MANCHESTER ROYAL INFIRMARY.—*Tues.*, 4.15 p.m., Mr. E. D. Telford, Megacolon. *Fri.*, 4.15 p.m., Dr. Crichton Bramwell, Demonstration of Cardiac Cases.

APPOINTMENTS

MEANLEY, J. W., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Hopt District (Norfolk).

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.—Senior Resident Medical Officer: R. W. Graham Campbell, F.R.C.S. Assistant Resident Medical Officer: T. T. Hardy, B.M., B.Ch. District Resident Medical Officer: Catherine Mackinlay, M.B., B.S. Resident Anaesthetist: Constance L. Taylor, M.B., Ch.B.

VACANCIES

BANGOR: CAERNARVONSHIRE AND ANGLESEY INFIRMARY.—(1) Senior H.S. (2) J.H.S.

BIRMINGHAM CITY.—C.O. (male) at Selly Oak Hospital.

BIRMINGHAM CITY MENTAL HOSPITAL.—J.A.M.O. (female).

BURNLEY COUNTY BOROUGH.—R.S.O. (male) at Municipal Hospital.

CARDIFF CITY.—A.R.M.O. (male) at City Isolation Hospital.

CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL.—R.S.O. (male).

CHORLEY AND DISTRICT HOSPITAL.—H.S.

EASTBOURNE: ROYAL EYE HOSPITAL.—H.S. (non-resident).

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.—Assistant

S. (female) to Throat, Nose, and Ear Department.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—(1) Fourth P.

(2) Fourth S.

FINCHLEY MEMORIAL HOSPITAL.—R.M.O.

GORDON HOSPITAL, Vauxhall Bridge Road, S.W.—R.H.S.

HERTFORD COUNTY HOSPITAL.—Hon. Assistant P.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 60, Grove End Road, N.W.—Anaesthetist.

HOUNSLOW HOSPITAL.—J.H.S. (male).

KETERING AND DISTRICT GENERAL HOSPITAL.—Hon. Anaesthetist.

KING EDWARD MEMORIAL HOSPITAL, Ealing, W.—J.R.M.O. (male).

LIVERPOOL UNIVERSITY.—Louis Cohen Chair of Dental Surgery and

Directorship in Dental Education.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) Hon. Assistant P. (2)

Hon. Dermatologist. (3) Hon. Medical Psychologist.

LONDON JEWISH HOSPITAL, Stepney Green, E.—(1) R.M.O. and H.P.

(2) H.S. (3) C.O.

MAIDSTONE BOROUGH.—A.M.O. (female).

MANCHESTER: ANCOATS HOSPITAL.—C.O.

MANCHESTER: COUNTY MENTAL HOSPITAL, Prestwich.—J.A.M.O. (un-

married).

MARKET DRAYTON: CHESHIRE JOINT SANATORIUM.—(1) R.H.P. (male).

(2) Third A.M.O.

MINISTRY OF HEALTH.—Deputy Regional M.O's.

NEWCASTLE-UPON-TYNE, CITY AND COUNTY OF.—Resident Medical Assist-

ant at Barrasford Sanatorium.

NEWPORT, MON.: ROYAL GWENT HOSPITAL.—J.R.M.O.

OLDHAM ROYAL INFIRMARY.—C.O. and H.S.

PENSHURST: CASSEL HOSPITAL OF FUNCTIONAL NERVOUS DISORDERS.—

J.R.M.O.

PLYMOUTH: PRINCE OF WALES'S HOSPITAL.—R.S.O. (male).

ROYAL DENTAL HOSPITAL OF LONDON, 32, Leicester Square, W.C.—Two

Part-time House Anaesthetists (non-resident) for In-patient and Out-

patient duties.

ROYAL FREE HOSPITAL AND LONDON (R.F.H.) SCHOOL OF MEDICINE FOR

WOMEN, W.C.—(1) Part-time Senior Assistant. (2) Full-time Second

Assistant, and (3) Full-time Third Assistant for Obstetrical and Gynaecological Unit.

ROYAL NORTHERN HOSPITAL, Holloway, N.—Second Ophthalmic S.

SOUTHAMPTON COUNTY BOROUGH.—Part-time Ear, Nose, and Throat S.

(male).

STOCKPORT INFIRMARY.—H.P. (male).

STUTTON AND CHEAM HOSPITAL.—Hon. Anaesthetist.

SWANSEA COUNTY BOROUGH.—(1) A.M.O. (female). (2) R.M.O. (male, un-

married) at Infectious Diseases Hospital.

VENTNOR: ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES

OF THE CHEST.—J.A.R.M.O. (male, unmarried).

WARWICKSHIRE AND COVENTRY JOINT COMMITTEE FOR TUBERCULOSIS.—

Senior A.M.O. (male) at King Edward VII Memorial Sanatorium, Hert-

ford Hill, near Warwick.

MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT, 1925,

for the Birkenhead and Runcorn County Court Districts (Circuit No. 7).

Applications to the Private Secretary, Home Office, Whitehall, S.W.1,

by November 6th.

CERTIFYING FACTORY SURGEON.—The appointment at Burgess Hill (Sussex)

is vacant. Applications to the Chief Inspector of Factories, Home

Office, Whitehall, S.W.1, by October 30th.

This list is compiled from our advertisement columns, where full par-

ticulars are given. To ensure notice in this column advertisements

must be received not later than the first post on Tuesday mornings.

Further unclassified vacancies will be found in the advertising pages.

BIRTHS, MARRIAGES, AND DEATHS

The charge for inserting announcements of Births, Marriages, and Deaths is 9s.; which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH

ATKINSON.—On October 14th, at The Lydens, Redhill, Surrey, to Eileen, wife of Dr. Henry Atkinson, a son.

MARRIAGE

BRIDGE—HARGREAVES.—On October 13th, at St. Dunstan's, Stepney, Dr. R. E. Bridge (Otago, New Zealand), F.R.C.S.Ed., to Flora Hargreaves (University College, London), F.R.C.S.

DEATHS

KEITH.—On October 13th, at Homefield, Downe, Kent, Celia, beloved wife of Sir Arthur Keith, aged 64 years.

MOIR.—At Thorncliffe House, Hassle, East Yorks, on October 15th, 1934, David Roger Moir, M.A., M.B., Ch.B. Aberd.

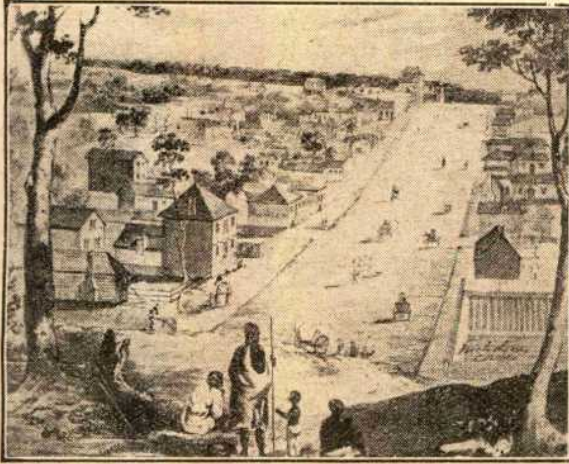
POWELL-EVANS.—On October 11th, 1934, at 22, Compton Road, Witley, David Robert Powell-Evans, M.R.C.S., L.R.C.P., L.S.A., in his seventy-third year.

Victoria Becomes an Independent Colony

After several years of agitation the Port Phillip district was separated from New South Wales, and became the independent Colony of Victoria in 1851. Following hard on this event came the discovery of rich goldfields within

built, and extensive Government buildings, including stately Houses of Parliament, were begun.

By 1861 Melbourne and its suburbs, most of which now had municipal councils of their own, housed 140,000 people. The older city of Sydney was left far behind,



EARLY VIEW OF COLLINS STREET.



• COLLINS STREET IN THE 'SEVENTIES

its boundaries and a rush of immigration, mainly from Great Britain, to the new Eldorado. From 1852 to 1854 the average number of overseas arrivals in Victoria was 90,000 per annum. Although Melbourne was now a city with 20,000 inhabitants, it could not cope for long with the demands made for accommodation by this horde of gold seekers. The result was the growth of a large camp on the waste lands to the south of the river, which at one time held nearly 5,000 people. "Canvas Town," as it was called, was under the control of the Crown Lands Commissioner, and was laid out in regular streets and lanes; but it was only a temporary expedient, and by 1854 it had begun to dwindle out of existence. Things were settling down, and the huge access of population was making itself felt by causing rapid suburban expansion and stimulating social developments generally.

The "Land Boom" and Its Effect on Melbourne

Between 1854 and 1859 Melbourne held its first exhibition, in a miniature "Crystal Palace" hastily erected in William Street. A suburban railway system was inaugurated, and a university and a public library were founded; a water-supply and gasworks were established; footpaths were paved and roadways macadamized; a volunteer fire brigade system was developed; the first town hall was erected—a remarkable record for a city little more than twenty years old. Three large theatres were also

and for a full forty years Melbourne was the leading centre of population. The 'sixties and 'seventies was a period of steady progress, with the growth of buildings, especially of churches, of an increasing dignity, but without

any spectacular developments. The great International Exhibition of 1880-1, however, ushered in an era of striking changes, surpassing even those of the "gold rush" period. Between 1881 and 1891 the population of Melbourne increased from 282,000 to 490,000. Capital was pouring into the country for investment, and speculation in land was feverish and extravagant. It was indeed a time of artificial prosperity, known to later generations as the "land boom"; but its permanent effects on the city were remarkable. From a fair-sized provincial town it was transformed into a modern metropolis. Buildings eight and nine stories high sprang up as if by magic. A cable tramway system was constructed, and electric light and telephones were introduced. The course of the river was widened and straightened, eliminating the danger of floods, which had been a recurring trouble in the past, and new and



COLLINS STREET, MELBOURNE, 1934.

handsome bridges were erected to connect the northern and southern portions of the metropolitan area. A Melbourne Metropolitan Board of Works was constituted, and the installation of a modern sewerage system was begun.

The "boom" was followed by a severe depression, fortunately mainly local and therefore temporary. In a few years there were signs of recovery, and with the inauguration of the Commonwealth in 1901 Melbourne again came into prominence as the temporary seat of the Federal Parliament, which met there for over a quarter of a century, pending the building of the Federal capital. In 1906 electric tramways were introduced, which have gradually replaced nearly the whole of the older cable ones, and between 1918 and 1925 the entire suburban railway system was electrified, providing a passenger service well able to stand comparison with that of any city in the Old World.

The Modern City

Greater Melbourne of to-day covers an area of 200 square miles, and includes some twenty-seven or twenty-eight independent cities, with a total population of nearly a million. It has 146 miles of tramways, and its parks and gardens have an area of over 8,000 acres. The latter include the beautiful Botanical Gardens, situated on the banks of the Yarra close to the city, and the Treasury and Fitzroy Gardens, which are on the confines of the business centre. A broad, leafy boulevard, the St. Kilda

Road, leads southward from the Prince's Bridge, adorned by numerous statues and monuments, and its vista closed in by the great War Memorial Shrine erected between 1928 and 1932. At the entrance to the city stands St. Paul's Cathedral, erected nearly fifty years ago, but its graceful spires only recently completed. The Town Hall and Elizabeth Street Post Office are both buildings worthy of a great metropolis, and the Public Library has a reading room similar in construction to that of the British Museum, but much loftier. The same building houses the National Gallery, one of the most richly endowed galleries of the British Empire.

At the east end of the city stand the Houses of Parliament and the principal Government offices, besides Melbourne's second cathedral, St. Patrick's. To the north lies the University, occupying, with its affiliated colleges, over 100 acres of ground, and attended by some 3,000 students. Beyond the spreading miles of suburban streets one can glimpse a distant view of surrounding hills, and it is among these that the people of Melbourne build the week-end homes to which they retreat in the summer season; while southwards, along the eastern shores of Port Phillip Bay, stretches a long line of watering places equally favoured in the holiday season.

A. W. GREIG.

HEALTH AND HUMAN PROGRESS

A MEDICO-SOCIOLOGICAL SURVEY

*L'Economie Humaine par la Médecine Sociale*¹ by Dr. René Sand is a really remarkable book. The writer of this notice has had occasion to read, and to be grateful to, many books on medical sociology, but this book is in a class by itself. The previous work of Dr. Sand had made it clear that anything coming from him on a subject he has made his own was to be received with respect and gratitude, but into this particular volume he has poured all his great knowledge and his gift for attractive presentation in such measure that it may be regarded as the complete guide to all interested in citizenship and not least to the medical profession; and it is not only a guide, but an inspiration. M. Herriot, in a preface, says that Dr. Sand's programme may be summarized as a "demand that we make use of progress instead of being subjected by it." The thesis of the book is that human life could be so much richer for all than it is now if we would take the trouble to make it so; that much progress has been made but that much still remains to be done; and that medicine in its widest sense has been a very great factor in human progress and will be even more important in the future.

The difficulty about a book so rich in material is to select. Every chapter might well form the subject of an article. Dr. Sand sees in the widely spread reduction of the birth rate something which is forcing the politicians of the world to realize that preventable sickness and premature death are an intolerable waste of human material, and that social medicine is a factor in human economy which must be encouraged and organized far more than it has been. He shows with a wealth of illustration that "we can buy human life, and every country fixes for itself, within certain limits, its own death rate." He defines social medicine as the art of prevention and cure considered as "something which links the health of men to their condition as human beings." He classifies the elements of the populations of various countries according to their financial resources, and arrives at what he calls a balance sheet of sickness and death. He points out that the increase in deaths in certain categories is a sign of progress when the deaths occur at the more advanced ages.

¹ *L'Economie Humaine par la Médecine Sociale*. By René Sand. Preface by M. Edouard Herriot. Paris: Les Editions Rieder. 1934. (30 fr.)

In an interesting survey of the causes of death (in which great appreciation is shown of the returns of our Registrar-General) Dr. Sand shows that, after tuberculosis, the most frequent cause of death in young women is child-birth, and he suggests that the stationary or even increasing maternal mortality rate is probably due to the results of abortion, though he admits that it is difficult to secure figures to prove this. According to confidential medical reports received from certain German towns the number of abortions there exceeds that of accouchements. Contrary to what might have been expected, at any rate in this country and in New Zealand the deaths from external causes have not increased in spite of mechanization and the motor car, nor is urbanization tending to increase the death rate, the infantile rate in the towns in many countries being lower than that of the rural areas, though in the later ages the country has an advantage. In these matters as in all others the author's conclusions are supported by figures and illustrations taken from all countries.

HEALTH AND INCOME

On the financial cost of sickness he is very illuminating, and his discussion in Chapter V of the argument that the effects of natural selection are paralysed by hygienic measures is worth serious consideration. He is convinced that health depends mainly on income, and he goes into much detail regarding the physical differences at different ages of the various classes of population. His examinations in Chapter VI of "The Inequality of the Classes in Respect to Sickness and Death" and in Chapter VII of "Heredity and Environment," lead him to the conclusion that, "in general, heredity and selection are not the dominating factors in the biological inequalities ascertained as between the several classes." He discusses very fully the theories of the Karl Pearson school, and gives his reasons for dissenting from them.

There is a topically interesting footnote in Chapter VIII on "Heredity Factors," in which he says that the now widely spread opinion that unions between groups ethnically different (Nordic, Mediterranean, Alpine, etc.) are unfavourable from the hereditary point of view is not proved. "Each ethnical group has its own 'hereditary patrimony' which in total is different, but it has not been proved that any one of these patrimonies is in total superior from the biological point of view, and, besides, very few, if any, nations have a homogeneous ethnical population. The Jews were already a composite nation before

their dispersal." He estimates that the population of the world has quadrupled since the eighteenth century and doubled in the nineteenth, and gives figures showing the countries in which the population is increasing, stationary, or decreasing.

On the question of contraception he points out that in Holland, where for thirty years the teaching of contraceptive methods has been legalized and encouraged, the birth rate is 20 per cent. higher than in Belgium, where such teaching is prohibited, and suggests that from the point of view of morals Holland has no reason to fear comparison with its neighbour. Dr. Sand gives much information as to the various suggestions put into practice from the eugenic point of view, and is against family allowances, premiums for births, and assistance to large families, on the ground that these methods encourage the inferior as much as the superior.

Chapter X, on "Professional Factors," gives a full résumé of the rates of mortality in different callings, and figures relating to morbidity, where such are available. There is an interesting discussion whether the higher mortality rate of women workers is due to sex or to the economic factor, which compels married women to work. The Baltimore inquiry, which he frequently quotes, showed that even in comparable economic groups the fact that a mother worked away from home had a detrimental effect on the health of the children, but he sees no reason why this need be so, given proper organization.

MEDICINE AND INDUSTRY

The section on the connexion of medicine with industry is very full, and the author points out that this is no new thing, for so far back as 1575 a book on this subject was published by a Spanish physician, Juan Huarté, which had no fewer than twenty-five Spanish and thirty-six other editions. After an acute analysis of the evils caused by industrialism to the individual and the family Dr. Sand concludes that it could easily be turned to the physical, mental, and moral advantage of those concerned, and he gives examples. He is convinced that the slum and unemployment are the two main barriers to the progress of human society. He emphasizes the necessity of promoting the dignity of labour, and points out that in New Zealand, which has done most in this direction, there is not only a lower death and sickness rate than in any other country, but less discontent. Dealing at considerable length with the housing question he concludes that a workman should not be obliged to pay more than one-sixth of the family income in rent.

In his later chapters he further emphasizes his doctrine that all our material existence is conditioned by income, which not only affects health and comfort but intellectual life and morality. Poverty is the enemy. In the long run the community pays the deficiencies of the employer. Wages inferior to human needs cannot be justified, and, whereas up to the middle of the nineteenth century "neither the peasant nor the townworker could be assured of his daily bread, to-day whole nations are now so rich that all could be properly nourished, housed, clothed, and educated."

SOCIAL INSURANCE AND THE HEALTH SERVICES

He is strongly in favour of social insurance as a preventive of poverty, but believes that the ideal system is one which gives the insured person an interest in not making claims, so that he can make use of money which has been saved by his self-denial for other purposes. Discussing the part played by public and private effort he believes in both, but decides that the major role must be undertaken by the community. The example of the United States of America shows that private effort, however generously supported, cannot take the place of social insurance.

In Chapters XII, XIII, and XIV Dr. Sand makes many suggestions for further advances. He deprecates the waste of effort involved in the multiplication of agencies very imperfectly co-ordinated. He favours health centres, and

alludes to the proposals of Lord Dawson's Committee and the experiment of Drs. Scott-Williamson and Pearse, but thinks it is wasteful to dissociate preventive and curative medicine. The hospital should be the centre for all health work, and he urges the medical profession in this matter to be not only preventive and curative but constructive. Education, though invaluable, will not deliver the individual from his prejudices and weakness, as is shown by the "unpardonable hygienic misconduct of even the best-educated people." The teaching of hygiene in schools is absent in many countries and very imperfectly developed in all. "One becomes an engineer or an officer without having any conception of the role of hygiene in the workshop or the regiment; one founds a home knowing little or nothing of domestic hygiene or how to bring up children."

The book of 285 pages, with a bibliography and list of authors cited, ends in a chapter of sound reasoning and sober eloquence in which an optimistic note is struck, in spite of the sentence in which the author declares: "There are whole continents in which people live under the weight of poverty and disease; for many human beings life is still narrow and sordid; technique serves but dominates us; work is deprived of its joy; thirty million unemployed denounce the incapacity of their rulers; and the spectre of war is not yet laid. Is our task impossible or merely unfinished?" Dr. Sand leaves us in no doubt that in his opinion, given the necessary vision, good will, and organized capacity, the liberation of the world will go on, and that in the future as in the past the medical profession will play a great part, though it must realize far more than it does now the necessity for co-operation with other agencies.

The figures and examples given by Dr. Sand come from nearly all countries, but it is gratifying to find that the author frequently has reason to quote British practice, and his acknowledgements of Sir George Newman's work are frequent and handsome.

We have necessarily given a cursory view of a great book, full of information, practical suggestion, and inspiration. It calls urgently for an English translation, which should be brought to the notice of all who are interested in the important problems it discusses.

Researches conducted during 1933 at the South African Institute for Medical Research included the testing of the potency of concentrated anti-plague serum; this was found to correspond almost exactly with the degree of concentration, thus indicating that concentration up to four times the strength could be achieved. It is stated also, in the annual report of the Institute, that prophylactic pneumonia vaccine for native miners has continued to prove highly satisfactory. A publication embodying the results of the extensive experimental and other work performed in this connexion will be issued shortly. Studies of pneumonia on the Witwatersrand prove that in the native, at any rate, a pneumococcus of the heterogeneous Group IV can be responsible for acute respiratory conditions. All the meningococci recovered from patients during the year proved to be aberrant strains, showing no correspondence with agglutinating meningococcal sera of the recognized local or overseas groups. Rabies infection is assuming more serious proportions in South Africa, and now threatens households through the cat, the tame mercat, and, occasionally, the dog. It has been shown that the rabies vaccine used locally has some value in protecting rabbits against a fatal dose of South African rabies street virus. Attempts to secure early diagnosis of cancer, by various serological methods, proved unsuccessful. An inquiry into the causes of malnutrition has been inaugurated on a broad basis. Data are being collected as regards the heights and weights of children and young adults, and also on the lines recommended by the American Children's Health Association, which are based on comparison of the relations between height, chest width and depth, hip width, and arm circumference—discarding weight as being fallacious. This will pave the way for subsequent study to be undertaken of the values of various foods.

MOTOR CARS FOR 1935

THE OLYMPIA SHOW

[FROM OUR MOTORING CORRESPONDENT]

(Concluded from page 693)

Coupled with their efficiency for modern conditions of traffic, which render exceptionally high speed almost impossible, the existing economic stringency has resulted in cars of 10 horse-power continuing to form one of the most popular types, and, despite the reduction of 25 per cent. in the annual tax as from January 1st next, it would seem that manufacturers are anticipating a continuance of "Ten" popularity, inasmuch as such cars are now being built by no fewer than six makers—namely, Austin, Ford, Hillman, Morris, and Standard, with the Singer Company producing both 9- and 11-h.p. vehicles.

A PRICE ANALYSIS

An analysis of car prices tends to indicate that the vehicles most suitable for medical men fall in the £250-£350 category. Even below these figures there is a wide selection of cars which will fully meet the needs of many doctors and give satisfactory service. Thus up to £150 there is a choice of five covered cars—the remodelled Austin Seven, the 8-h.p. and 10-h.p. Fords, the new Morris Eight, and the Standard Nine. Between £150 and £200 there is a selection of nearly fifteen models, ranging from the Austin Ten at £158 to the Wolseley "Hornet" at £198 10s. Again, between £200 and £250 there are no fewer than sixteen different cars, from the Vauxhall Light Six at £205 to the new front-wheel-drive Citroën at £250. Noteworthy cars in the £250-£300 group are the 16- and 20-h.p. Hillmans at £269, and the 16- or 20-h.p. Morris Oxfords at £285, all with six-cylinder engines. Finally, between £300 and £350 there are the Lanchester Ten and the B.S.A. Six, both with self-changing gear, and the Vauxhall Big Six.

INCREASING POPULARITY OF COUPÉS

As mentioned last week saloons continue the most popular in motor body designs. A walk round the Exhibition reveals, however, that it is now being closely pressed by the coupé type of vehicle, this being mostly of the foursome variety—that is to say, having accommodation for four people. As, however, this type is what is known as close-coupled, the leg room for the rear passengers is not usually so liberal as in a saloon. Much ingenuity has been shown in the design and construction of coupé drop-heads, which enable the car to be used either entirely or partially open, or completely closed.

In the following notes on the different makes of car on view reference is only made to those which, in design and cost, are likely to appeal to doctors.

ARMSTRONG-SIDDELEY AND AUSTIN

Only detail improvements have been found necessary in the range of Armstrong-Siddeley six-cylinder cars, which are notable for their preselective self-changing gear-box. The popular 12-h.p. saloon has been reduced from £300 to £295, or with special equipment £305, while for those requiring a more powerful car with greater passenger room there is a 15-h.p. saloon at £435 and a new 17-h.p. model at £465. The Austin Company is for the 1935 season retaining its range of cars from the "Seven" to the "Twenty," but with numerous improvements, including synchromesh gears on three of the four speeds, sloping radiator front, and a combined luggage carrier and spare wheel compartment. The popular "Baby" has been largely redesigned, and has been reduced in price, the saloon with fixed head being now listed at £112, or with sliding roof £128. Useful models for doctors' use are the Austin 10-h.p. saloon at £172 10s., or cabriolet at £178; the "Light Twelve-Four" and "Twelve-Six" at £218 and £235 respectively, the last-mentioned being available with either 13.9- or 15.9-h.p. engine at the same price, and the old but modernized 12.8-h.p. four-cylinder car, with five types of saloon body, costing from £275 to £325.

BRITISH SALMON, B.S.A., AND CITROËN CARS

An interesting newcomer is the British Salmon 12/55-h.p. four-cylinder car, which with saloon body is priced at £395. Continuing its distinction of being, with the Lanchester, the lowest-powered vehicle available with the Daimler fluid fly-wheel and preselective change-speed gear, the B.S.A. 10-h.p. car embodies only detail improvements, except that a model with a slightly longer wheel-base has been added. Prices of saloons range from £210 to £245. The chief B.S.A. innovation is the introduction of a 12-h.p. six-cylinder car embodying all the chief features of the "Ten," available in either saloon or fixed-head coupé from £315. Reference was made last week to the new Citroën 12-h.p. four-cylinder car with front-wheel drive and special body work contrived so as to obviate the employment of the usual chassis frame. Although a striking departure from the usual practice, the new vehicle has been subjected to exhaustive tests, and has become very popular in France. As a saloon it is listed at £250. Other Citroën cars of conventional construction and improved in detail include a "Ten" (11.8-h.p.) saloon at £225, a "Light Twelve" at £235, and a "Big Twelve" at £245, all with four-cylinder engines, and a six-cylinder "Light Twenty" at £285.

CROSSLEY, DAIMLER, AND FIAT

Of the four Crossley cars for the coming season the one which attracts attention is the 10-h.p. four-cylinder "Regis," which at £325 now embodies as standard a four-speed preselective self-changing gear-box, as well as detail improvements. The "Balilla" 11-h.p. car of the Fiat Company is continued, but with a slightly longer wheel-base, providing more room in the pillarless four-door saloon. The gear-box now also provides four speeds—two of which are synchromesh—instead of only three. The price is £210. There is also the 15-h.p. "Ardita" four-cylinder saloon, which has been reduced from £375 to £350. The Daimler 15-h.p. six-cylinder car, the price of which remains at £450, while subject to the same tax as hitherto, has been provided with a slightly longer stroke engine; the body work has also been improved in detail.

FORD AND HILLMAN

The 1935 range of Ford cars—not at Olympia, but at their own display at the Royal Albert Hall—is attractive. The Ford "V-8" is probably the cheapest eight-cylinder car on the market. Chief sales during the past year have, however, been of the popular little 8-h.p. four-cylinder car, which is being continued at reduced prices, while to the range has been added a similar car but with 10-h.p. engine, selling as a two-door saloon at only £135 and with four doors at £145. Numerous detail improvements have again been introduced in the popular Hillman "Minx" 10-h.p. cars, the prices of which in saloon form range from £159 to £185, or £225 for a foursome drop-head coupé. The principal innovation is a four-speed gear-box incorporating the synchromesh principle on all speeds. For medical men requiring a more powerful and more roomy car there is a family saloon with either 16-h.p. or 20-h.p. engine at £269, or in *de luxe* form at £295.

HUMBER, JOWETT, AND LANCHESTER

Although the Humber productions consist chiefly of cars of relatively high horse-power, the range includes a 12-h.p. four-cylinder, the price of which, in view of the many detail improvements in both chassis and body work, has been raised from £265 to £285. The gear-box of this car has now synchromesh gears on all four speeds. Despite the fact that the 7-h.p. Jowett continues as the only car having a two-cylinder engine, its reliability and low running costs have secured for it the support of many motorists. The standard sliding-roof saloon, which sells at £160, has been improved in detail, particularly as regards the mounting of the engine to obviate any vibration. There is also the "Kestrel" *de luxe* saloon at £175, in which a controllable free-wheel is provided in connexion with the four-speed gear-box, and a "Curlew" saloon at £185, which, in addition to the free-wheel, has a special centrifugal clutch. The chief innovation in the Lanchester programme is that, while continuing the four-cylinder "Ten," the makers have introduced a new 12-h.p. model on the same chassis but with six-cylinder engine. Both cars are of high-grade construction, and

embody the Daimler fluid fly-wheel and four-speed self-changing gear. Prices of the "Ten" saloons range from £310 to £335, and of the "Twelve" from £365 to £375.

MORRIS, RILEY, AND ROVER

The chief feature of the 1935 Morris programme is the introduction of an entirely new "Eight" four-cylinder car replacing the "Minor" of former years. Mounted on a special box-section frame, the saloon body has comfortable accommodation for four persons, while the fittings and accessories are as comprehensive as those on the larger cars. At £120 for the two-door and £130 for the four-door fixed-head saloons—sliding roofs costing an additional £12 10s.—it is a model that is bound to become very popular. The "Ten-Four" and the "Ten-Six," two noteworthy Morris productions, have only been improved in detail and provided with slightly larger tyres, a similar description applying to the two models hitherto known as the "Cowley," but now styled the "Twelve-Four" and the "Fifteen-Six." The Morris "Oxford," a very popular car with many medical men, is continued with but slight changes at £285 for the fixed-head saloon and £305 for a sliding-head coupé, a choice of either 16- or 20-h.p. engine being also given. A change in the Morris cars which may be briefly mentioned is that the accelerator pedal is now at the right of the brake pedal instead of central as hitherto. A wider choice of external body colours in either single or double tones is also now available. The Riley cars, which are mainly of the sports type, may appeal to many of the younger members of the medical profession. The "Nine" is being continued with detail improvements, and, known as the 1½-litre model, there is a new 12-h.p. four-cylinder car with saloons at £335 and £345. For 1935 the Rover Company is producing two four-cylinder cars—10.8 and 11.9 h.p.—with saloons at £248 and £278, and two "Sixes," of 13.8 and 19.8 h.p. Such features as the clutchless gear-change and controlled free-wheel are being retained, while new points of merit include automatic chassis lubrication and the rust-proofing of all exposed metal parts of the chassis.

THE SINGER AND STANDARD CARS

The Singer Company has a very attractive range of cars for the 1935 season, notable, on certain models, for such innovations as the "fluidrive" transmission and independent front-wheel suspension. The "Nine" four-cylinder saloon costs either £162 10s. or £185 in *de luxe* form, and the 11-h.p. car £245 as a saloon or £275 as a drop-head coupé. There are also 14-h.p. and 16-h.p. six-cylinder models with saloons at £259 and £295 respectively. Mechanically, the Standard cars show but little change from last year, but the body work has been brought into line with modern tendencies. At the lower end of the scale is the "Nine," at saloon prices, ranging from £145 to £175. Next are the "Ten," of which five types are available from £185 to £245, and the "Twelve" at £219 to £239. In addition to these four-cylinder cars there is a "Sixteen-Six" *de luxe* saloon at £285.

VAUXHALL AND WOLSELEY

The Vauxhall Company provided one of the Show surprises by the introduction of a new version of the "Light-Six" car, which has proved very popular during the past year. The chief innovation is the adoption of independent front-wheel or "knee-action" springing, which is claimed to result in much more comfortable riding, especially when travelling over bad roads. Other improvements comprise lower and roomier body work, a built-in luggage boot, and an easy jacking system. Retaining the "no draught" ventilation arrangement and synchronized easy gear-change, this 12-h.p. car is now priced as a standard saloon at £205, or in *de luxe* form with either 12-h.p. or 14-h.p. engine at £225. Another Vauxhall production which is proving very successful is the "Big Six," which, with either a 20-h.p. or 27-h.p. power unit, is priced at £325. The Wolseley Company is continuing its popular "Nine" four-cylinder car, which as a saloon costs £179, and the 12-h.p. six-cylinder "Hornet" at £198 10s. The latter is now fitted with a special preselective three-speed gear-box. New six-cylinder models are seen in a 14-h.p. four-speed saloon at £240 and an 18-h.p. at £340. A Crossley with engine at the rear is not being shown this year, the only

British car of this type being the 10-h.p. Trojan, a feature of which is the employment of a four-cylinder two-stroke power unit. Curiously enough, the only other rear-engined vehicle in the exhibition is located on the adjoining stand of the German Mercedes-Benz Company. This is a 12-h.p. four-cylinder vehicle with the engine, gear-box, and differential mounted as a unit behind the back axle, which latter is carried by two powerful spiral springs in place of the usual semi-elliptics.

TYRES AND CAR SERVICE

The tyre section, while revealing no startling departures, shows that the competition between the different manufacturers is such as to result in even better tyres than ever, as much as regards their non-skidding qualities as their long-wearing life. Once a prolific cause of trouble and worry, the modern tyre, when accorded a modicum of regular attention, especially as regards the maintenance of the recommended air pressure, may be depended upon for many thousands of miles of reliable service. The Avon Company is continuing its duo-tread tyre introduced a year ago, while the British Tyre and Rubber Company (formerly Goodrich) has introduced a tyre incorporating in the construction of the cover what is known as a "golden-ply" impregnated with rubber compound, which is said to be heat-resisting, and consequently ensures freedom from tyre bursts.

Although of interest chiefly to the trade, a visit to the garage and service station equipment section of the exhibition reveals the many noteworthy appliances which are now available for the rapid and efficient carrying out not only of chassis lubrication and tyre inflation, but for such renovation and repair work as cylinder boring, valve grinding, decarbonizing, brake testing and relining, etc., all of which should have their effect in keeping users' car maintenance costs down to the minimum.

ACCESSORIES

The galleries of the Show are always worth a visit, as they usually reveal a number of accessories which add to the comfort, and on this occasion the safety, of motoring. Space prevents any lengthy reference to this section of the exhibition; attention may, however, be drawn to a few of its features, such as the numerous anti-dazzle headlights and devices, radiator muffs for winter use, and the stoves, etc., for keeping the garage warm during the night in very cold weather. To the list of Price's "Zero" radiator glycerin and other anti-freezing preparations for addition to the water in radiators are now added the newcomers Smith's "Bluecol" and the County Chemical Company's "Stop-it-freezing." Each of the above-mentioned firms issues a chart showing the quantity to be added to the radiators of all the principal makes of cars. At the Schrader Company's stand there is shown a little device that should appeal to doctors who have to look after their own cars. All motorists know what a nuisance it is, to test the air pressure of or inflate the tyres, to have to remove the valve caps, two for each tyre. To obviate this time-occupying task the firm mentioned has introduced a device known as the "Dublchek" cap, which fits in place of the usual large and small valve caps. While so constructed as to be unaffected by dust or water, the device enables the pressure to be tested or the tyres inflated by direct application of the tester or pump. The lighting and starting battery is probably the most frequent cause of doctors' motoring troubles, especially in the winter months when engines are more difficult to start, causing a greater drain on the accumulator's charge than can be replaced in ordinary running. To overcome this difficulty the Westinghouse Brake Company has introduced a device known as the "Westric" battery charger, which can be readily fixed in any private garage in which a supply of electricity is available. The only addition to the car, usually to the instrument board, is a special socket supplied with the charger. With the "Westric" all that is necessary to keep the battery in a state of charge is to connect up the lead from the charger to the socket on the car when the latter is put away for the night, and then to switch on the current. Finally, mention may be made

of a simple yet very useful accessory for medical men discovered on the stand of Smith and Sons, and consisting of a small memo pad with pencil, adapted to be clipped to the rim of the steering wheel of a car. Not large enough to interfere with steering, it can be used as a visual reminder of the calls a doctor may have to make on his rounds. The pad is chromium-plated, and so arranged that refills may readily be inserted.

C. J. W.

Scotland

Vital Statistics of Scotland for 1933

The seventy-ninth annual report of the Registrar-General for Scotland, dealing with the year 1933, includes a statistical summary by Dr. Peter L. McKinlay, Superintendent of Statistics. The principal features of the year under review were a birth rate which was the lowest on record, a marriage rate which was the highest recorded during the last ten years, a death rate below the average of recent years, and an infantile mortality rate which was the lowest recorded in this country with the exception of that for the year 1923. There was a great reduction in deaths from measles extending over the whole year, as against an increase in those from scarlet fever, particularly during the winter months. The death rates from bronchitis and pneumonia were below the average of the preceding five years. The mortality from tuberculosis showed a continued improvement, but there was a further increase in the deaths attributed to malignant disease. The estimated population of Scotland at the middle of 1933 was 4,912,000, comprising 2,364,000 males and 2,548,000 females. This represents an increase of 29,000 in the total population since the middle of 1932, and is attributed partly to excess of births over deaths and partly to inward balance of migration. The number of births registered during 1933 was 44,767 males and 41,779 females, a total of 86,546. The highest birth rate recorded was in the year 1876, when it was 35.62 per 1,000 of the population, and this rate has steadily tended downwards, with the exception of the war years, until, in 1933, it reached 17.62 per 1,000. With regard to deaths, the number registered during the year was 64,848, giving a rate of 13.2 per 1,000 of the population. This rate was 0.32 below that for 1932, and 0.45 below the average of the five preceding years. The death rate is now almost one-half of that recorded half a century ago. It shows a direct relation with urbanization, for when the rates are adjusted for differences of age and sex constitution of the population, the large burghs show a rate of 14.21, as compared with 12.7 in the small burghs and 11.86 per 1,000 in the landward areas. In the counties, inclusive of burghs, the highest adjusted death rate was in Lanark with 14.6, and the lowest in Peebles with 9.8. In the large burghs the highest was in Greenock with 16.1, and the lowest in Arbroath with 11.9. In small burghs it ranged from 15.5 in Kilwinning down to 10.7 in Peebles, and in landward districts from 13.3 in Lanark and in Stirling to 9.1 in Peebles. There were five centenarians whose age was verified, all being females. Since the practice was introduced in 1910 of verifying the ages of reputed centenarians 171 instances have been verified out of 331 reported. The principal epidemic diseases were responsible for 4,072 deaths, as compared with 4,235 in 1932, and of these 2,027 were due to influenza, 762 to whooping-cough, 356 to diphtheria, 310 to scarlet fever, and 219 to cerebro-spinal meningitis. Measles, however, was responsible for only thirty-six deaths during the year, or 856 fewer than in the preceding year. Tuberculosis continued to show a reduction, the total deaths from this cause being 3,910, which was the lowest number yet recorded, and the rate 80 per 100,000.

This was in marked contrast to the rate of 382 per 100,000 which prevailed in 1870. Diabetes was responsible for 711 deaths, an increase of 45 as compared with the figure for 1932, and these deaths included 246 males and 465 females. There were 7,520 deaths from malignant disease, giving a rate of 153 per 100,000 of the population, and accounting for 11.6 per cent. of all deaths. These deaths numbered sixty-two more than in the preceding year, but the rate was the same. From other general diseases deaths were as follows: pernicious anaemia, 312; rheumatic fever, 171; chronic forms of rheumatism, 135; diseases of the nervous system, 8,983, of which 6,641 were due to various forms of apoplexy; general paralysis, 122; locomotor ataxia, 69; diseases of the circulatory system, 11,887—or 781 more than in the previous year—of which 10,489 were attributable to heart disease; of the respiratory system (excluding influenza and tuberculosis), 8,763—1,053 fewer than in 1932—of which 7,891 were due to bronchitis and pneumonia; of the digestive system, 3,771 (excluding malignant disease), of which 573 were attributed to gastric and duodenal ulcer; of the genito-urinary system, 2,629, of which 1,908 were due to diseases of the kidney; of pregnancy and childbirth collectively 512, or sixty-four fewer than in the previous year; puerperal sepsis, 212, or thirty-one fewer than in 1932. Deaths due kidney; of pregnancy and childbirth collectively 512, an increase of fourteen on the figure for the previous year, but a decrease of 85 as compared with 747 in 1930. The most important causes of death were: heart disease, malignant tumours, apoplexy, and pneumonia; and of these the first three showed increases as compared with the statistics for 1932. Among infants the most important causes of death were congenital defects, pneumonia, diarrhoea, whooping-cough, and convulsions. With regard to vaccination it is pointed out that before the passing of the Vaccination (Scotland) Act, 1907, by which conscientious objection became a valid reason for avoiding it, over 91 per cent. of the children were successfully vaccinated. Thereafter the numbers declined, except that in the year 1920, when there was an outbreak of small-pox in Glasgow, the rate rose to 71 per cent., but following this there was a steady decline, reaching in the year under review the lowest record of 49 per cent.

Psychiatry in Edinburgh

The annual report for 1933 of the Royal Edinburgh Hospital, Morningside, is the one hundred and twenty-first of this institution, and the first to be issued by Professor D. K. Henderson as physician-superintendent. His survey indicates that preventive and remedial measures have replaced the old-time custodial outlook, and he gives ample evidence for his statement that certification itself merely ensures continued treatment, whereby the patient is afforded a better chance of recovery than if he were ordering his own destiny. The large number of patients utilizing the out-patient departments, the nursing homes, the Jordanburn Hospital, and applying voluntarily for treatment in West House or Craig House, proves that the treatment of certain forms of nervous and mental disease can be conducted well on a co-operative basis. The psychological clinic under the direction of Professor Drever was established to study behaviour disorders in children, and to give advice regarding educational and vocational guidance. It is more specialized than the other departments, but its purpose of dealing essentially with children during the formative years of their development is of great importance. The clinics at the Royal Infirmary and the Jordanburn Hospital deal with the more medical aspects of psychiatry, whether applied to children or adults. Professor Henderson remarks that the association with the Royal Infirmary is particularly valuable, since it estab-

services on urgent grounds of health, and offering to place the services of his Department at the disposal of those authorities which could thereby be enabled to improve conditions in their own areas.

A Nutritional Investigation of School Children

In view of a statement by the head teacher of one of the schools in Middleton, that "lack of nourishing food" was the cause in the children of an inability to concentrate, a deterioration in physique, a lowered standard of work, and an absence of vitality and pluck, an investigation of 217 unselected children in various departments of that school was arranged by Dr. S. T. Beggs, medical officer of health. Weights and heights were correlated, and shown to be average on the whole, although there were several individual exceptions. Most of the children had too little sleep, however, and the foodstuffs they received were sometimes most unsuitable. The school conditions were not altogether satisfactory, there being too much noise from adjoining classes—an important factor in feebleness of concentration. This investigation led to an inquiry being made in other schools, a questionnaire being sent to head teachers. The number of children found to be under the average height and weight amounted to 34.45 per cent. The percentage of children not receiving properly prepared meals at home was 8.61, having no milk 11.26, and having an excessive amount of tea 12.58. In 62.26 per cent. there was insufficient sleep. Overcrowding was found in 31.79 per cent., unemployment was possibly concerned in 49.67 per cent., and various physical defects were present above the average. Suitable instructions were accordingly issued to parents. The average of thirty-two estimates by clinic mothers of the cost of an economy diet weekly for a family of mother, father, and one child aged 5 was 16s. 8½d., as against the British Medical Association's figure of 13s. 8d. Current food prices were shown to be higher than those noted by the B.M.A. It is concluded that the causation of ill nutrition in growing children is complex in nature, but that sufficiency of sleep is a major factor in determining the growth and development of the school child. The excessive physical defects are to be related to the nutritional state. Home management in a number of cases requires drastic correction, but the school environment also needs improving sometimes. The amount of money expended on food in the homes of necessitous cases is below the minimum for the satisfactory growth and health of the children. The mothers' estimates as regards the food requirements of a family closely approximate the B.M.A. figure, but the local prices of foodstuffs are higher than the B.M.A. in the

difficulty of obtaining a sufficient number of district cases for training the pupils of the hospital in accordance with the Board's rules, those pupils who were general trained nurses might be permitted to take less than the prescribed number of district cases and make up the required number of twenty by taking additional intern cases. The Board replied that it could not modify the rule in the way suggested, because the grant of its certificate to a woman entitles her to practise as a midwife, and before such a certificate is granted the Board must be satisfied, as far as it can be, that the recipient is fitted to practise as a midwife. The resolution added that a possible way of remedying the shortage of district cases at present available for the pupils in training at Sheffield would be to submit to the Board for approval as teachers the names of competent midwives in the Sheffield area who could, if approved, undertake district training. The Board recorded its deep sympathy with the relatives of the late Dr. W. W. King and the late Dr. Tenison Collins, and its appreciation of the valuable services rendered by them as examiners.

Treloar Hospital, Alton

A new policy has come into being at the Lord Mayor Treloar Cripples' Hospital and College at Alton. It was decided some time back to enlarge the scope of the work, and to consider any crippled child, using the word in its widest sense, eligible for admission. In his report for the twelve months ended March 31st, 1934, Sir Henry Gauvain remarks that this policy has now fully justified itself, and has given children who would not ordinarily be admitted for a long enough period into a specialized hospital a chance of receiving efficient and sufficient treatment. Among the 162 non-tuberculous cases dealt with during the year were two cases of arachnoidactyly, a congenital condition in which the long, thin hands and feet are like those of the spider monkey in appearance, and there is imperfect muscular development, with abnormal movements at many joints. Owing to the weakness of the muscles the spine cannot be held erect, and becomes markedly curved, while the sternum is carinate, and the thorax narrow laterally. When the head is lifted the back straightens out, and therefore, if efficient treatment is given, the deformity is corrigible. One child who was unable to lift herself from the recumbent position when admitted can now stand erect, and with the aid of suitable appliances made in the hospital splint shop can walk a little. Another patient had hypertelorism characterized by curious facial abnormalities, and was unable to walk; when discharged there was complete unassisted walking. Various rare myopathies were also seen. Five cases of progressive muscular atrophy of the pseudo-hypertrophic type. Two cases of arthritis after scarlet fever were observed. One case of arthritis and spondylitis.

struts attached to this and supporting a concave chest-piece, fitted to the thoracic convexity when the patient is in the erect attitude; and on the affected side a similar chest-piece attached to a duralumin bar, which is pivoted to the pelvic band behind the hip-joint, and twisting round the buttock proceeds down the inner side of the thigh, being attached to a metal plaque on the inner condyle of the femur, and strapped round the limb above the knee-joint. When the chest-piece on the affected side is drawn towards the chest-piece on the sound side, the leg on the affected side is abducted, and must remain abducted. In tuberculous disease of both hips the splint made on the scissors principle is equally effective; adduction of the legs is impossible, and the so-called scissor-leg deformity cannot develop. The new wards of the hospital were finished and opened for use during the year; there is now also a winter playground for ambulant children, providing complete shelter, flooded with radiant heat and ultra-violet light, and open to the air along the whole front. In the branch at Hayling Island a bathing pool has been constructed, 53 ft. long and 20 ft. wide, with a gently sloping floor, and ranging in depth from 6 in. to 4 ft. Filled with fresh sea-water each day, it has the advantage over the open sea of safety, ready accessibility, independence of tidal and weather conditions, and permitting the patients to have balneotherapy at the time of day most suitable for them.

London Medical Exhibition

The large hall of the Royal Horticultural Society at Westminster was occupied during the first five days of this week by the London Medical Exhibition, which brought together about 160 stands, representing the products of almost as many firms. The great bulk of the exhibits fell into the categories of pharmacy and foods, but surgical instrument makers were represented, as were the manufacturers of x-ray and artificial sunlight apparatus, optical and aural appliances, and orthopaedic constructions. Amid the crowd of more commercialized products the eye turned gratefully towards a few choice book-stalls, on which were displayed the wares of medical publishers; and, after all, books are as necessary to the doctor's efficient practice of his profession as any of the other commodities. Three British spas—Bath, Buxton, and Harrogate—set forth their advantages. While it cannot be said that anything revolutionary made its appearance, there was at every turn material to appeal to the intelligence, and, incidentally, to charm the eye, for the manufacturers who serve the medical profession understand as well as any the psychology of the outside of the cup and platter. It would be impossible to list the names of any exhibitors, but the variety of circumstances, preparations, or instruments which had all been produced during the last few years was

Ireland

Milk Regulations in Northern Ireland

Creameries will be required to furnish monthly returns to the Minister of Agriculture, setting out the quantities of milk received and from whom. Strict rules are laid down as to the surveillance of herds by producers, and officials will be empowered to inspect premises, equipment, and herds, and even to have milking tests carried out in their presence. The regulations dealing with the equalization payments from the Milk Fund in respect of all milk produced in Northern Ireland, delivered to a creamery, and used for the purpose of the extraction of cream or for manufacture into butter, provide that such payment in any month shall be made by the Ministry of Agriculture as soon as possible after the average price paid by all creameries for milk so used during the month has been ascertained. The Act provides that the equalization payment shall be a sum which will raise the average price of creamery milk to 5d. per gallon in the summer and 6d. per gallon in the winter. Concerning Grade A, Grade B, and Grade C milk—that is, milk to be sold for human consumption—the regulations provide that holders of producers' licences may not produce Grade D milk upon the premises in respect of which a producer's licence for Grade A, B, or C milk has been granted. The Ministry will not, save in exceptional circumstances and subject to such special conditions as it may impose, grant a Grade A producer's licence to any person in respect of any premises if that person holds a licence for the production and sale of Grade B and C milk on those premises. There is a similar proviso against granting a Grade B licence for premises in respect of which a Grade A or C licence is held, and against granting a Grade C licence for premises for which a Grade A or B licence is held.

National Maternity Hospital, Dublin

At the recent annual meeting of the governors of the National Maternity Hospital, Dublin, Dr. Myles Keogh, acting as chairman for the Lord Mayor of the city, stated that four years ago the governors were warned that the old hospital buildings were rapidly deteriorating, and they were advised to look for a site for a new building. As a result of the efforts of some of the governors about £6,000 was raised, and the adjoining houses between the present hospital and Merrion Square were bought up. With the money received from the first sweepstakes, work on a new wing on the site of the Merrion Square houses was begun, and this was now approaching completion. For the past year the hospital has been unoccupied, bed in the new wing, and the total number of beds at the hospital at the end of the year the total number of beds was 100, which was read during the year 1934.

of the county infirmary authorities, has, however, started a small dispensary on Saturday mornings at the Infirmary. During the year fifty-five cases of chronic ear discharge were seen—a higher number than in the previous year, due probably to a larger incidence of respiratory affections during the winter and spring. Among skin diseases scabies has decreased, while ringworm, of which there were previously so few cases that the condition was not separately classified, has increased. Impetigo contagiosa has also increased, and has been particularly prevalent in the Armagh City schools. The number of eye affections remains much the same as last year, with, however, a curious increase, for which there is no obvious explanation, in the number of cases of squint and a marked increase in those of corneal opacity. The increase in goitre, in which category are included all classes of thyroid enlargement, may be largely attributed to the dry weather of last summer, which had an adverse effect on the water supplies of most rural areas; the condition has been found most prevalent in the country districts. The number of cases of speech defects is about the same as before. The total number of children on the roll was 13,928; number examined, 11,881; scabies, four; ringworm, twenty; impetigo, sixty; other skin diseases, thirty; blepharitis, eighteen; conjunctivitis, twenty-two; corneal opacity, thirty; other eye conditions, fifty-five; serious defects of vision, 807; squint, 232; defective hearing, forty-six; otorrhoea, fifty-five; tonsils requiring removal, 396; adenoids requiring removal, 272; goitre, 136; defective, sixty-one; defective teeth, 8,839; heart disease, fifty-three; anaemia, 132; mental deficiency, eight.

Midwifery Nurses and General Nursing

The committee of the Irish Nurses' Union has written to the medical associations in the Free State calling their attention to, and asking assistance in, preventing, as far as possible, the growing practice of midwifery nurses undertaking general nursing without the necessary qualifications and training. The Department of Local Government and Public Health is strongly opposed to the employment of midwifery nurses for general nursing; there is too frequently the possibility that these nurses may attend patients suffering from infectious and contagious diseases, and thus expose maternity patients to considerable danger. The whole question is likely to come before the General Nursing Council and Central Midwives Board; meanwhile medical practitioners would be acting in their own interests if they refused to recognize midwifery nurses for other than maternity work.

The quarterly committee of the
Relief of Widows
on October 10th
reported an
grants an

Reports of Societies

CONTROL OF THE BLOOD PRESSURE

In the Section of Therapeutics and Pharmacology of the Royal Society of Medicine on October 10th, the president, Professor J. H. BURN, M.D., devoted his address from the chair to the subject of "The Control of Blood Pressure."

Professor Burn said that present conceptions of the control of the general blood pressure were based on the view that the sympathetic nerves were only constrictor in action, and the circulating hormones, adrenaline and vasopressin, only pressor in effect. Surgical treatment of high blood pressure and allied conditions, which was increasing, had been directed accordingly to the removal of portions of the sympathetic system and of the suprarenal glands, or tumours connected with them. Some success had, in fact, been achieved in two directions. Jonnescu and Bruning had found that attacks of angina pectoris disappeared in patients from whom the left sympathetic chain (from below the superior cervical ganglion down to and including the inferior cervical or stellate ganglion) had been removed; and again various observers, following C. H. Mayo, had found that the crises of paroxysmal hypertension disappeared after removal of a chromaffin tumour from the neighbourhood of the suprarenal gland. It seemed quite clear that paroxysmal hypertension must be due to the sudden liberation of adrenaline in the blood. Apart from these two directions, however, surgical treatment had not been successful. Attempts had been made to treat continuous hypertension by removal of the suprarenal gland and by removal of portions of the sympathetic system, and both these methods seemed to have failed. The attempts had not stopped at removal of the second, third, and fourth lumbar sympathetic ganglia with adjacent branches on both sides, but had recently been extended by Adson and Brown to include bilateral section of the anterior roots of the spinal cord from the sixth thoracic to the second lumbar. Some lowering of the blood pressure appeared to have resulted from paralysis of the abdominal muscles.

VARIATION IN NORMAL PRESSURE

It was time, in Professor Burn's opinion, to reconsider the theoretical basis of such attempts. He showed graphs and gave a close description of the examination by Alvarez of 6,000 university students and graduates, from 16 to 40 years of age, with a view to determining the variation in normal blood pressure. The systolic blood pressure was found to range from 85 mm. to 190 mm., and the diastolic from 55 mm. to 110 mm. Groups were taken the variation was as in the men taken as a group of 100 men of 18 years the blood pressure was 85 mm. to 180 mm. These blood pressures

one of them, on the average, would have a pressure of either less than 103 or greater than 157 mm., and by the law of averages, again, one man in about every forty-four must have a pressure greater than 157 mm., but a pressure which for him was just as normal as the colour of his eyes. How many unfortunate people were going about under the impression that they were suffering from high blood pressure when in fact their pressure merely showed an unusual deviation from the mean! Did the disease of hypertension really exist, or was it a figment of the imagination? One might doubt whether a high blood pressure should be classified as a disease unless there was evidence that the pressure was continuing to rise.

PRESSORS AND DEPRESSORS

Turning to the hormones and the nerves which were commonly regarded as vaso-constrictor in action—namely, the hormones adrenaline and vasopressin and the sympathetic nerve supply—Professor Burn said that as far back as 1900 adrenaline was shown to have a vaso-dilator as well as a vaso-constrictor action. In many conditions when the blood pressure was high the administration of adrenaline caused a fall. Probably this vaso-dilator component was present whenever adrenaline acted, and it should therefore be remembered that removal of the suprarenal glands, while taking away a pressor agent, was also taking away a depressor agent. Thus it was possible that the removal of the glands might be the worst treatment for patients with continuous hypertension. In the same way it had lately been shown that vasopressin exerted a depressor effect when injected into the ventricle of the brain. Harvey Cushing demonstrated that when vasopressin was so injected—certainly in large doses—there ensued, not the sickly pallor which followed intramuscular injection, but an intense flushing of the skin and sweating. The important fact emerged from Cushing's observations that when pituitary extract was injected in large doses—20 units—into the ventricle (which might be the normal means of entry) it caused vaso-dilatation and not vaso-constriction; from which it followed that pituitary extract, like adrenaline, might play a part normally in keeping the blood pressure low. Finally, it had been shown recently in the dog that the sympathetic supply to the muscles of the hind limbs contained a large vaso-dilator component. In the laboratory, indeed, it was much easier to observe the dilator than the constrictor effect. In this connexion he recalled Michell's observations at Cambridge that the blood pressure of rowing men was usually much less than the average. Hence all three mechanisms, hormonal and nervous, commonly thought of as pressor, might also be depressor, and it seemed more accurate to think of them as controlling the blood pressure by raising or lowering it than simply as factors which raised it. To remove suprarenal glands or sections of the sympathetic system might be expected to lead to a fall in blood pressure rather than to improve it.

ADVANCES IN CARDIOLOGY

The opening meeting of the third session of the Mid-Staffordshire Medical Society was held at Stafford on October 2nd with Mr. F. M. BLUMER in the chair.

Dr. CRIGHTON BRAMWELL of Manchester, in an address on "Some Recent Advances in Cardiology," compared the teaching of cardiology to-day with that of twenty years ago. In the province of pathology important advances had been made in our knowledge of angina pectoris. It was now generally agreed that an insufficient supply of oxygen to the heart muscle was the causal factor in this condition. The pain of myocardial infarction was so similar to that of angina of effort that there could be no doubt that both were due to the same cause. Coronary occlusion was no longer regarded as a necessarily fatal lesion, and could often be diagnosed during life. It differed from angina of effort in many respects, but the most important diagnostic features were the persistence of the pain, the signs of shock, and the electrocardiographic findings. Neuro-circulatory asthenia had attracted much attention during the war, but also occurred in civil life as the result of acute infections and focal sepsis. It should be treated by graduated exercise and not by rest. Thyrotoxicosis was a common cause of auricular fibrillation, and in some cases this type of arrhythmia was the sole manifestation of the condition. Electrocardiography had come to stay. It often afforded objective evidence of degenerative or inflammatory lesions of the myocardium in cases where the ordinary methods of physical examination proved negative. It was especially helpful in patients with coronary arterial disease. A normal electrocardiogram did not signify a normal heart, and the electrocardiographic findings must always be considered in conjunction with the clinical evidence. Radiography was now being extensively employed in the diagnosis of cardiac lesions. A radiogram could provide all the information obtained from percussion, and could do so with a much greater degree of accuracy. It provided information as to which chambers of the heart were enlarged, and thereby provided a clue to the cause of the enlargement. It made possible an inspection of the thoracic aorta throughout its whole course, and the recognition not only of dilatation but also of calcification and atheromatous changes. It revealed dilatation of the pulmonary artery and its branches which could not be detected in any other way.

In the province of therapeutics the standardization of digitalis by biological assay had paved the way to the massive dose method of oral administration. Digitalis had almost entirely replaced strophanthus, and was more useful than quinidine in most cases of auricular fibrillation. Iodine therapy in Graves's disease had greatly reduced the operative mortality, and as a life-saving measure in acute cases was comparable to insulin in

CORRESPONDENCE

L'Union Internationale Contre le Cancer

SIR,—Many of your readers will be aware that a preparatory conference took place in Paris last March which had for its purpose the formation of an international union, whose main objects will be to establish close liaison between organizations concerned in the study of cancer; to combat charlatanism; to propose criteria for a uniform international system of international records; to publish occasional bulletins on matters of international importance; and to organize future international congresses.

The preparatory conference, which was convened by Mopsieur Justin Godart, former Minister of Health, and President d'Honneur of the last International Cancer Congress in Madrid in 1933, was extremely well attended. No fewer than thirty-two countries (twenty European and twelve extra-European) were represented by one or more delegates. The British delegation consisted of Colonel Smallman from the Ministry of Health; Mr. Richard Davis from the British Empire Cancer Campaign; Dr. Cramer from the Imperial Cancer Research Fund; Mr. Sampson Handley from the Middlesex Hospital; and Mr. Cecil Rowntree from the Cancer Hospital.

Agreement was reached upon certain general questions of principle, and statutes controlling the organization of the union were adopted. Of these, the ones relevant to the present purpose are:

1. That each country shall be represented by two delegates, who will collectively constitute the governing body (Le Conseil de Direction), which will meet annually, so far as possible in a different country each time.
2. That the Conseil de Direction shall have power to add to its numbers up to one-third of its total membership, by election of associate members from any country.
3. That each country shall be asked to arrange for the nomination of these national delegates.

A temporary executive committee was appointed, consisting of:

France	...	...	M. Justin Godart (President).
Germany	...	...	Professor Borst.
Belgium	...	...	Professor Maisin.
Italy	...	...	Professor Lustig.
Spain	...	...	Professor del Rio Hortega.
United States	...	...	Dr. Carter Wood.
Great Britain	...	...	Mr. Cecil Rowntree

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Whither General Practice?

SIR,—Might I be granted the privilege of ventilating a grievance in your columns, in order to obtain the opinions of the large body of general practitioners whom it intimately concerns?

There is to-day an increasing tendency for ante-natal, welfare, and other auxiliary medical services to encroach on the functions of the doctor whose patients belong to the lower middle class. Two recent cases in my practice illustrate this, and are only typical, I believe, of thousands of others in all parts of the country.

Case 1.—I advised a patient, whose first confinement I attended and whose infant did not thrive on breast-feeding, to adopt "complementary feeds," and gave the necessary detailed instructions. A few days later, without my knowledge, a welfare worker called on the young mother and, in a most courteous and ingratiating manner, discussed the progress of the child, casting doubts on the accuracy of my instructions. After an interval of three days she repeated her visit, to inquire about the child, and remarked that, though she could not "interfere" while I was in attendance, she could give advice when I had "ceased to attend"! This, in effect, meant that the continuous individual supervision of the infant, which I look upon as one of the chief privileges and duties of the family doctor, was to be taken out of my hands and conducted by a welfare worker. The mother did not belong to any "clinic," nor had she expressed any wish to consult a welfare worker, being both anxious and able to pay for my services. When I complained to the medical officer of health of the district he not only justified the worker's action, but tacitly admitted that, under his instructions, members of his staff paid these uncalled-for visits to mothers when births had been notified to him.

Case 2.—A patient, whose confinement was conducted by a nurse, was strongly urged by a welfare worker to take her baby to the clinic. There the assistant medical officer of health, after examination, advised hospital, but the mother expressed the wish to consult her own doctor first. Since the patient was well able to afford a doctor the welfare worker was not, in my opinion, justified in urging a "clinic," nor the assistant medical officer of health a "hospital." For the benefit of such a patient both should have advised her to select a doctor if she had not already got one.

Having held an appointment of medical officer of health and, within the last two years, organized and directed a most successful welfare centre, I do not underrate the value of "clinics," but am convinced that an over-zealous staff is often too anxious to enrol, one might almost say "press-gang," members who are quite able to afford a private doctor. "General practice" becomes increasingly curtailed, largely because of the facilities given by hospitals and clinics which, while complaining of the necessary steps to encourage, their patients to obtain the great service would be a reader would suggest a

continue to discharge. It is not uncommon to find that while a central mass of adenoids has been successfully removed there still remain adhesions in Rosenmüller's fossae—a difficult condition to cure. Some patients only suffer from muco-purulent otorrhoea for a short time whenever they have a cold in the head, and these are, of course, not difficult to deal with. In some of the clinics abroad these cases of muco-purulent otitis media are regarded as tuberculous, but I am not sure whether the discharge is considered to be due to tuberculous disease of the lining membrane of the Eustachian tube or whether the patient is thought to be a tuberculous subject, and therefore unable to recover from the muco-purulent otorrhoea.

It seems to me that the trouble probably lies in air cells in connexion with the Eustachian tube. During recent years it has been recognized that there are not infrequently cells in the apex of the petrous temporal above the cochlea. In severe cases of acute purulent otitis media infection in these cells gives rise to the condition known as "apicitis," associated with severe pain behind the eye on the corresponding side and paralysis of the homolateral sixth nerve. It seems quite probable that chronic infection of these cells may be the cause of many cases of apparently incurable muco-purulent tubo-tympanic catarrh.

I have tried many methods in attempting to cure the condition—for example, the internal administration of sodium iodide in large doses, combined with the local use of peroxide of hydrogen (Pfannenstiel's method). In other cases "mucidan" in various dilutions was used in the form of ear drops, but the remedy is painful and not suitable for children. Nager of Zurich recommends intra-tympanic syringing, drying with cotton mops, and the insufflation of boric powder or "zeroform." The method I have most frequently employed is to syringe out the anterior part of the tympanum and the Eustachian tube from the external acoustic meatus by means of a metal syringe with a bulbous nozzle which tightly fits the external meatus. The patient sits holding a basin below his chin, and the fluid syringed into the meatus passes through the perforation, down the Eustachian tube, and drips from the corresponding side of the nose. Thereafter, the fistula bag is used, just as in cases in which one suspects erosion of the lateral semicircular canal (circumscribed labyrinthitis). After the tube has been dried out by the use of the fistula bag 10 per cent. argyrol is instilled into the meatus and forced down the Eustachian tube by further application of the fistula bag. In other words, one treats the condition somewhat like a case of gleet. Theoretically, this line of treatment would appear to be very satisfactory, but, unfortunately, although the discharge lessens or even ceases for a time, the trouble recurs.

—May I, in conclusion, say a few words about the discussions which followed the monthly meeting held

The mother had a systolic murmur in the mitral area, which had been discovered previously—during a temporary illness some time before. She gave no history of rheumatism or any allied condition, and had never suffered any symptoms of heart disease. The murmur was regarded as a functional one.

From September 12th the patient was seen every month until the thirty-sixth week, and from that time weekly until labour. During this period the foetal heart was heard in the right occipito-anterior position at each visit, and no souffles or other deviation from the normal foetal heart sounds was heard at any time. On October 2nd, at what corresponded, according to the date of her expected confinement, to the thirty-ninth week, a murmur was heard in what is regarded as the right occipito-anterior position. This murmur was asynchronous with the mother's pulse, and presented a peculiar rough and somewhat prolonged crescendo sound. As I knew no way of timing a murmur in the foetal heart, and as its other characteristics were very similar, I recorded it as a presystolic murmur.

Labour commenced on October 4th, and was normal in every respect and unassisted, the second stage occupying only fifty minutes, and she was delivered of a live male child weighing 6 lb. 4 oz. The infant was cyanosed at birth, but showed no clubbing of the fingers or toes. A systolic murmur could be heard at the base, loudest in the pulmonary area. Considering that it had been heard through the mother's abdominal wall, it seemed that it had decreased in intensity. As the infant was cyanosed, in accordance with the usual practice at the Council's maternity home, where this child was born, Dr. D. M. Cunningham, the mother's private doctor, was called in to attend the child. He confirmed the diagnosis of congenital heart. The infant died on October 6th at 10.30 a.m.; unfortunately a post-mortem was not practicable. I am indebted to Dr. Cunningham for the privilege of examining the infant at the time it was under his care.

Although the case appears at first to be merely of clinical interest, I had hoped, if the infant had survived, to endeavour to watch the changes, if any, in the character of this murmur, with a view to learning, if possible, something of its relation to prognosis.—I am, etc.,

A. W. JOHNS,

Medical Officer of Health.

Erith, Oct. 10th.

Ether Convulsions

SIR,—Having had a case of ether convulsions a few days after the publication of Dr. Sykes's letter (September 29th, p. 610), I reread it with great interest, and think that perhaps a few details about my patient may be useful to those investigating this dangerous condition. In many respects it resembled Dr. Sykes's case.

The patient was a well-grown boy aged 14, sent in as an acute appendix. He was given morphine 1/12 grain on admission, and 1/200 grain 1/2 hour later.

smooth from the start. Their respiration was uneven, they did not settle well, and caused me anxiety all the time, before anything happened. (3) Both had more ether than normal, and developed symptoms at the end of the operation—that is, just after absorbing "the little more," given for closure of the peritoneum. The amount of ether given was, to the boy of 14, four and a half ounces, and to the other case, a man of 31, nine ounces, both more than my average.

I would suggest that ether convulsions are due to the presence of more than one factor at the same time. I suggest that the unsatisfactory respiration is the danger signal that indicates the presence of one of the factors, and that when this occurs special care should be taken not to give any more anaesthetic than is absolutely required by the surgeon, as the excess of ether is also, I believe, often connected with the condition.—I am, etc.,

Doncaster, Oct. 12th.

B. E. COOK.

Control of Haemorrhage in Prostatectomy

SIR,—I am much interested in Mr. F. McG. Loughnane's letter in your issue of October 13th. His findings bear out my theory as propounded in the description of my two-way catheter and vacuum-flask retainer (irrigator), published in your issue of July 15th, 1933. My article "Complete Closure of the Urinary Bladder in Cystotomy Cases," published in the *Lancet* of January 13th, 1934, describes the method fully. For the past year I have used my apparatus for continuous irrigation in acute and chronic cystitis, pre-operative treatment of bladder operations, and in selected cases for complete closure of the bladder in cystotomy cases. In all cases that have been treated in this way haemorrhage, when occurring, has been completely controlled in twenty-four to forty-eight hours.—I am, etc.,

London, W.1, Oct. 15th.

MORTON WHITBY.

Female "Bleeders"

SIR,—I was interested in the cases reported by Drs. Foulis and Crawford in the *Journal* of September 29th (p. 594), and by Dr. Leak in the correspondence columns of October 13th. The authors of the first article do not seem to have been previously aware of the possibility of haemophilia occurring in the female. Dr. Leak mentions the possibility of haemophilia being a Mendelian characteristic, but is wrong in arguing that it is probably a dominant one because it happens to have occurred in consecutive generations.

The known
race

normal male (DrRd), one *affected female* (RrRr), and one female carrier (RrRd). In haemophilia this is particularly uncommon because of the rarity of a male living long enough to marry and have children. It will be noticed that both the family trees referred to can be explained by this simple application of Mendelism.—I am, etc.,

Sheffield, October 15th. ROBERT PLATT, M.D., M.R.C.P.

SIR,—There have been two examples of familial bleeding recorded recently in the *Journal*, each of which shows several points of interest. The first, that of Dr. Foulis and Dr. Crawford (p. 594), claims the existence of two females suffering from haemophilia. The pedigree is characteristic of a Mendelian sex-linked defect, and may well be that of haemophilia, but it is interesting that two affected brothers should reach adult life and produce families. The authors state that "a haemophilic man rarely transmits the disease to his sons or the tendency to his daughters," but the reason for this is that the haemophilic man rarely reaches adult life. The existence of a haemophilic female can be satisfactorily explained if the father is haemophilic and at the same time the mother is a haemophilia carrier, and I suggest that the mother of the two affected females should be investigated from this point of view. The chance of this occurring must, of course, be extremely small. At the same time there have been many examples of female members of haemophilia families who, though not truly haemophilic, show an abnormal tendency to bleed.

The family recorded by Dr. Leak (p. 700) probably showed an entirely different defect. If all the affected members of this family are suffering from the same abnormality then the condition is certainly inherited as a Mendelian dominant. Dr. Leak states that all the affected members suffer from fairly frequent and prolonged epistaxis, and this feature alone makes it highly probable that the abnormality is hereditary telangiectasia. It sometimes happens in this disease that the lesions are scanty and not very obvious on the skin, but I suggest to Dr. Leak that he should examine the lips, tongue, buccal mucosa, nasal mucous membrane, and the conjunctivae for the presence of the characteristic small, bright red telangiectases.—I am, etc.,

Leeds, Oct. 15th.

HUGH G. GARLAND.

SIR,—I was greatly interested in the cases quoted by Drs. M. A. Foulis and J. W. Crawford, and by Dr. W. N. Leak.

These cases are as yet the most unsatisfactory, because our knowledge of the disease is incomplete. We do not know the mechanism of the coagulation of

twenty miles of Aylesbury. This last case was heard as long ago as 1818, and such a condition would presumably be equally valid to-day, when distances are so much shorter. In London, distances of two and a half and three miles have been held reasonable (*Atkyns v. Kinnier, infra*). An agreement not to practise as a surgeon-dentist in London has been held reasonable. On the other hand, when a dentist agreed not to practise within 100 miles of York, the condition was held to be unnecessarily wide for the protection of the other party to the agreement (*Horner v. Graves, 1831*). Unless the method of measurement is stated, the distance is measured "as the crow flies."

The peculiar danger of these covenants is that if by some mistake the area within which an outgoing practitioner binds himself not to practise is too wide, the whole restriction is invalid and the outgoing practitioner is at liberty to practise anywhere. Suppose an assistant to a Halifax doctor agreed not to practise in the West Riding of Yorkshire, and afterwards broke his agreement by practising in Dewsbury; if the courts considered that the West Riding was an unreasonably large area they would hold the restriction invalid as against public policy, and then there would be nothing to prevent the ex-assistant from coming to Halifax and setting up in practice next door to his late principal. The court will not fix a fresh limit. A more frequent source of trouble is faulty framing of the restrictive clause so that it does not entirely prevent the seller, ex-partner, assistant, or locumtenent from competing. One of the commonest errors of drafting is to forbid the seller to "set up in practice" within a certain radius. If the buyer, under this condition, goes out one morning and finds the ex-owner of the practice calling on some of his old patients at their invitation he has no redress. In order to be safe the restraining clause must prohibit the seller, etc., from doing any act at all in the capacity of a registered medical practitioner within a given reasonable area for a given time. One firm of solicitors with a large medical connexion advises, in London agreements, a double restriction: the outgoing party agrees not to set up in practice, or to practise, within a given small radius—usually one mile—and also that he will not profitably attend upon, advise, or prescribe for a patient who was previously a patient of the practice within a much wider radius, usually twenty miles. The small radius, while legally unobjectionable, gives ample protection against competition for future patients, and the large radius is obviously reasonable for the specific protection of the existing practice.

The words "practising the profession of a medical man" will probably cover every kind of competing activity.

Two medical men, on dissolving partnership, drew a line on a map and agreed not to "exercise or carry on the practice, profession, or business of physician, surgeon, or apothecary at any place within the boundaries of the partnership practice" north and south of the line respectively. One of them attended patients at their own residences on the wrong side of the line and the other sued him. Counsel argued that "practising" in an area meant opening a surgery or having consulting rooms in it, but the court held that the doctor practised his profession every time he attended a patient, and that the patient's house was a "place" within the meaning of the restraining clause.

When a practitioner binds himself not to practise within given limits, a condition that he shall also not live within certain limits is reasonable if it is connected with the covenant not to practise, and is necessary to protect the interests of the other party.

In *Atkyns v. Kinnier* (1850) a surgeon, K, entered into partnership with another, A, for three years, and promised that at the end of that time he would not practise or reside within two and a half miles of No. 28, Dorset Crescent, "measuring by the usual streets or public ways of approach thereto," and that if he should break this condition he would pay A £1,000. After the end of three years A sued K on the grounds that his house in Southwark was within two and a half miles of 28, Dorset Crescent. At the trial it appeared that K's house was more than two and a half miles away if the distance was measured by the public thoroughfare most frequented by carriages, but if measured by another public thoroughfare along which carriages seldom passed the distance was a few feet under two and a half miles. There was no evidence that K had done A any damage whatever by living

where he did, but the court found that the contract was broken and ordered K to pay the £1,000. The Exchequer Chamber—corresponding in those days to the Court of Appeal—supported the judge in holding that the condition that K should not reside within two and a half miles was not unreasonable, as a person might reasonably guard against a harmless act in order to prevent an injurious one which might easily follow from it. As the covenant not to practise was legal and binding, and the covenant not to reside was connected with it, this was legal and binding also.

The court has also held reasonable a condition that the retiring practitioner shall not let his house to a medical man. When a retiring practitioner binds himself not to carry on medical practice he is also bound not to act as assistant to a person who does so (*Palmer v. Mallet, 1887*).

RESTRICTIVE COVENANTS IN SCOTLAND

In Scotland the courts have sometimes regarded a restrictive covenant as a purely personal agreement which is not assignable to a successor. In *Rodger v. Herbertson* (1909) H sold his practice to A and agreed that A, his heirs, executors, and successors should have the exclusive right to the practice and the goodwill, and that he himself would cease to practise in the neighbourhood. A assigned the practice and the agreement to R, but when R brought an action to prevent H from practising in the neighbourhood the Court of Sessions held that the contract was personal and intransmissible, and that the term "successor" had no meaning. In this case, however, the court found that certain terms of the contract disclosed *delectus personae* (an exclusive personal reference) as regards the purchaser A, so as to suggest that the agreement was binding on H only with respect to A. Lord Dunedin, the President of the Court, expressly stated that there was no general rule, and that each case must depend upon its own terms and on the just construction of the bargain between the parties. Lord Wark, commenting on this case in an opinion delivered in *Cunningham v. Forsyth* (1933), dissented from the dictum of Lord Kinnear that in a medical practice there is nothing to assign but a personal goodwill, and that this can hardly be assigned except on considerations personal to the assignee. Although, he said, a medical man may sell his practice only to a person in whom he has confidence, and show by the terms of the contract that he has done so, yet in *Cunningham v. Forsyth* the practice was sold to the first comer by the representative of a doctor under legal disability. It was, he said, a little difficult to see why a restrictive covenant binding the doctor's son not to compete with this first comer should not be transmissible to any practitioner to whom the first comer should sell the practice. There did not, in fact, seem to be any element of *delectus personae* about the transaction. The position is probably, therefore, that even in Scotland a doctor selling a practice to a colleague can, if he makes it quite clear in the agreement that he is doing so, legally bind himself not to compete with any successor of that colleague. Friendly societies and other bodies sometimes insist that their medical officer shall bind himself not to practise in the neighbourhood after his engagement with them is ended. Such covenants have been upheld by the courts.

The courts accept the ordinary covenant not to practise afterwards as a necessary part of every agreement between two doctors who wish to work together, but as soon as two competing doctors try to make a similar arrangement they reject it as contrary to public policy.

Collins v. Locke (1879) concerned stevedores, not doctors, but the same principle would probably apply to medical practice. Four stevedores in Melbourne made a kind of "ring." They agreed to divide the stevedoring business of the port on the footing that each one should do the work on a certain list of shipping firms; if one took a job from a firm "belonging" to another of his colleagues he should compensate that colleague; and if at any time one could not get a particular job from one of his own firms, none of his colleagues should take it. The Privy Council held that the condition by which a party who did work allotted to another should compensate him was fair and reasonable, because each party in turn might benefit by it and the merchant interested in the ship could have his work done by the party whom he wished to do it. The court would not, however, enforce the other clause

—that which provided that if one party was not given the work, none of the parties should take it. This clause, it said, restrained three out of the four parties without giving any of them any profit or benefit to compensate for the restriction, which was also detrimental to the public because it deprived merchants of the services of any of the parties unless they employed a particular one, against whom they might have a perfectly reasonable objection. Their Lordships said that the clause was entirely beyond anything which the legitimate interests of the parties required.

It is therefore practically certain that if two doctors who lived in the same district made an agreement by which each should take certain patients and that neither should attend a patient belonging to the other, the courts would refuse to enforce their bargain. An agreement to allot certain streets or villages to one doctor exclusively would probably be open to the same objection. The courts are very jealous of the public interest in enforcing any agreement in restraint of trade or practice. If, however, a number of doctors agree that, whichever of them does the work, certain doctors shall receive the fees from patients in certain districts, the bargain would be held good at law, because each of the parties would stand to benefit in turn and the agreement would not in any way restrict the services available to the public.

LIQUIDATED DAMAGES

The condition by which a doctor agrees not to practise within a certain area generally includes a covenant that, if he does practise within that area, he shall pay a stipulated sum of money as "liquidated damages." This means that the parties agree that if the covenant is broken this sum shall represent the damage which the owner of the practice has suffered. If the clause expresses that the offender shall pay a certain sum as a penalty for breaking the agreement, then the sum is a penalty and the aggrieved practitioner can only recover a sum equal to the damage he has actually suffered. The courts will not necessarily, whatever the wording of the agreement, award such a sum either as liquidated damages or as a penalty, but will take all the circumstances into consideration. The decisions to be found in the reports suggest that the sum named will only be treated as liquidated damages if it represents a genuine estimate of the damage which the owner of the practice is likely to suffer if the outgoing doctor remains in the neighbourhood. If the sum is obviously disproportionate, the court will not make the offender pay it all; if the sum seems fairly proportionate, it probably will. The aggrieved practitioner can ask the court either to grant an injunction preventing the outgoing doctor from breaking his restrictive covenant or to award damages for the breach, but not both. A practitioner who succeeds in obtaining an injunction will not be allowed to sue afterwards for liquidated damages, and if he is granted damages the outgoing doctor will be perfectly at liberty to practise in the district as long as he likes. The owner can, however, sue both for an injunction and for unliquidated damages—that is, the actual amount of damage that he can persuade the court he has suffered. A doctor who has agreed not to practise on pain of liquidated damages cannot simply offer the amount of the damages and set up in practice.

If the owner of a practice suddenly discovers that one of his old assistants or ex-partners has started to practise in the neighbourhood in defiance of his agreement not to do so, he should lose no time in instructing his solicitor to apply for an injunction. The court will, if he makes out a good case, grant an interim injunction without hearing the other side, and this will protect the practice until the case is tried or for a definite time fixed by the court. If the offender has really infringed the covenant, the court will not refuse an injunction merely because the actual damage has so far been trifling. It is dangerous to delay in these cases, for courts of equity are apt to take the view that if a suitor does not ask for their help in reasonable time he cannot be in any great need of it. The injunction is a most effective remedy, because if the offender disobeys it he can be promptly imprisoned. It is a very different matter from trying to get damages out of an evasive debtor.

Medical News

Lord Moynihan will open the extension of the Samaritan Free Hospital for Women, Marylebone Road, London, N.W., on Tuesday, November 13th, at 3 p.m. It is twenty-seven years on November 23rd since Sir Frederick Treves formally opened the new operating theatre, and referred to the perfecting of the methods of certain operations particularly associated with the Samaritan Free Hospital and Sir Spencer Wells.

On Monday, November 5th, a banquet will be held at the Mansion House in support of the appeal of St. Bartholomew's Hospital Medical College for funds for the purchase and equipment of the site and buildings in Charterhouse Square acquired last year. The Lord Mayor, in a special appeal to the City of London, explains that £65,000 is needed to pay off the balance of the purchase price, £40,000 to alter and equip the existing buildings formerly occupied by Merchant Taylors' School, and £30,000 to build and equip a residential hostel for students. The College authorities have already raised £65,000, and they own a building which it is hoped to sell for £20,000. The new College must be ready for occupation before the opening of the winter session 1935-6. H.R.H. the Prince of Wales, President of St. Bartholomew's, has given his personal support to the launching of this appeal.

A reception will be held at the Royal Society of Medicine on Thursday, November 8th, at 8.30 p.m., when Fellows and their friends will be received in the library by the President and Mrs. Robert Hutchison. At 9.15 p.m. an address (in English) will be given by Professor Arturo Castiglioni, entitled "The Ancient University of Padua and its English Scholars." Admission will be by ticket only.

The annual dinner of the Leeds School of Medicine will be held at Queen's Hotel, Leeds, on Thursday, November 15th. Particulars may be obtained from the secretaries.

The Buckston Browne annual dinner of Fellows and Members of the Royal College of Surgeons of England will be held in the College, Lincoln's Inn Fields, on Thursday, November 8th, at 8 p.m. This dinner, provided through an endowment by Sir G. Buckston Browne, F.R.C.S., has been held regularly since 1928. Those present usually number about a hundred, and at least half of the guests are members of the College.

An address, on "Sir James Paget at Home," will be given by Bishop H. L. Paget on Friday, October 26th, at 8.45 p.m., at the Princess Elizabeth of York Children's Hospital, Shadwell, E.1. Professor G. Grey Turner will occupy the chair. Admission free, without ticket.

After the meeting of the Cambridge Medical Society on Friday afternoon, October 26th, at Addenbrooke's Hospital, Dr. G. S. Haynes will unveil the Arthur Cooke Memorial Plaque. By arrangement with the Cambridge and Huntingdon Branch of the British Medical Association, all members of the Branch are entitled to attend the meetings of the Cambridge Medical Society, which count as clinical meetings of the Association.

A meeting of the Medico-Legal Society will be held at 11, Chandos Street, W., on Thursday, October 25th, at 8.30 p.m., when a paper will be read by Dr. Ainsworth Mitchell on "The Use of Invisible Rays in Criminology," followed by a discussion.

A meeting of the St. John's Hospital Dermatological Society will be held at St. John's Hospital, 49, Leicester Square, W.C., on Wednesday, October 24th, at 4.15 p.m., when clinical cases will be shown.

A course of three lectures on "Forty Years of Gynaecological Endocrinology" will be given by Professor Ludwig Fraenkel, late director of the Women's Clinic in the University of Breslau, at University College Hospital Medical School, University Street, W.C., on October 31st and November 2nd and 5th, at 5.30 p.m. Professor F. J. Browne will take the chair at the first lecture. Admission free, without ticket.

A course of eight lectures on "Psychology and Modern Problems" will be given at the Institute of Medical Psychology, Malet Place, W.C., on Tuesdays from October 23rd to December 11th, at 6 p.m., with the exception of the lecture on October 30th, which will commence at 5.45 p.m. The fee for the course is £1 1s., and tickets may be obtained in advance from the honorary lecture secretary; tickets for single lectures, obtainable at the door, are 5s. each.

The programme for the ensuing session of the Eugenics Society has now been published. On October 30th Professor H. Muckermann will discuss "The Eugenic Movement in Germany"; on November 20th Mr. Herbert Brewer "Eutelegensis"; and on December 18th Dr. Shepherd Dawson "Disease and Intelligence." The meetings will be held in the rooms of the Linnean Society, Burlington House, Piccadilly, at 5.15 p.m., with Sir Humphry Rolleston in the chair; tea at 4.45. All interested in the subjects mentioned are invited to attend.

A post-graduate course on diseases of children will be held at the Great Ormond Street Hospital, W.C., from October 22nd to November 4th, from 10 a.m. to 1 p.m. and 2 p.m. to 4 p.m.; Saturdays 10 a.m. to 1 p.m. The course, the fee for which is £6 6s., will consist of fifty clinical lectures and demonstrations, and six laboratory demonstrations. Applications to take the whole course, or any part thereof, to the secretary of the hospital.

The Fellowship of Medicine (1, Wimpole Street, W.) announces that lecture-demonstrations will be given at 11, Chandos Street, W., at 2.30 p.m. on October 23rd and 30th. The first lecture in the series, on diet and dietetics, will be given at 11, Chandos Street, on October 24th, at 8.30 p.m., by Professor R. J. S. McDowall. A week-end course in diseases of the chest will be held at the Hospital for Consumption, Brompton, on October 27th and 28th. Other forthcoming courses include neurology, at the West End Hospital for Nervous Diseases, October 29th to November 3rd; obstetrics, at the City of London Maternity Hospital, November 3rd and 4th; medicine, surgery, and gynaecology, at the Royal Waterloo Hospital, November 5th to 24th; diseases of the chest, at the Victoria Park Hospital, November 5th to 10th; urology, at St. Peter's Hospital, November 5th to 17th. Courses of instruction, clinics, etc., arranged by the Fellowship are open only to members.

The Italian Congress of Industrial Medicine, which, as stated in our issue of October 13th (p. 705), was to have been held at Turin from October 20th to 22nd, has been postponed to the 25th to 27th.

The fifth Rumanian Congress of Surgery will be held at Bucarest during the first ten days of November under the presidency of Professor I. Bacalesco, when the following subjects, among others, will be discussed: surgery of cholelithiasis; surgical treatment of uterine prolapse; osteosynthesis; genital actinomycosis; and surgical treatment of facial paralysis. Further information can be obtained from Dr. J. Jiano, rue Campineanu 62, Bucarest.

The annual general meeting of the Guild of St. Luke, St. Cosmas, and St. Damian will be held in the Committee Room, Cathedral Hall, Archbishop's House, by permission of the Cardinal, on Sunday, October 21st, immediately after the High Mass at Westminster Cathedral, which will be celebrated at 10.30 a.m. Front seats will be reserved on the Epistle side.

On October 12th Mrs. Charles H. Marshall and Mrs. E. M. Field of New York attended the naming of the "Josephine B. Marshall" pathological laboratory at the West End Hospital for Nervous Diseases. The Bishop of Willesden performed the ceremony, and the Earl of Harewood presided. The late Mrs. J. Marshall was a great benefactress of the hospital, and for ten years, until her death in 1933, she was a member of the committee of management. Mr. and Mrs. Charles Marshall and Mrs. Field gave £3,200 to enable the laboratory to be named after her.

Under the auspices of the Standing Conference of Metropolitan Borough Tuberculosis Care Committees an

exhibition and sale of work made by students attending handicraft classes at tuberculosis dispensaries in London will be held next week at Carpenters' Hall, Throgmorton Avenue, E.C. There will be two opening ceremonies, the first on Wednesday, October 24th, at 3.30 p.m., by the Lord Mayor, and the second on the following day at the same hour by Lord Snell, chairman of the London County Council, after which Sir Henry Gauvain will give an address. Tea will be served during both afternoons (price 1s.), and working demonstrations will be given. Invitations and further particulars may be had from the honorary secretary, Mrs. William Brand, "Pembury," The Drive, Rickmansworth, Herts.

Rural housing in Wales and tuberculosis in cattle will be discussed at a sessional meeting of the Royal Sanitary Institute in the Pier Pavilion, Colwyn Bay, on Friday, October 26th.

In the year ending August 4th, 1934, in eighty-six large towns in the United States, 23.3 persons per 100,000 inhabitants were killed by motor accidents, as compared with 21.1 persons in the previous year.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

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All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBER of the British Medical Association and the *British Medical Journal* is EUSTON 2111 (internal exchange, four lines).

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QUERIES AND ANSWERS

Hospital Wards

Dr. SIDNEY CLARKE (St. Albans) writes: There is a tendency for architects at present to build hospital wards with beds parallel to the windows in place of the usual head to wall. Is this more costly, and does the arrangement lead to increased work? Some sisters are said to view the system with little favour. Would anyone, please, who is familiar with such wards give any information as to the advantages and disadvantages of such arrangements?

Chronic Bone Sinus

Dr. CLEMENT BELCHER (Birmingham) writes with reference to the inquiry by "A.B.C." (September 29th, p. 617): With a deep sinus of such long standing it is questionable if closure would be in the interests of the elderly patient, there being the probability of dead bone for which the sinus gives drainage. I have a similar case, but this is a tuberculous osteitis, not a staphylococcus infection, as is usual, I believe, in acute osteomyelitis cases. This patient has been under my care for forty-five years, and for the last forty has had a bone sinus. In 1890 his right foot was amputated for a tuberculous ankle-joint which troubled him for five years. He then developed a focus in his right elbow, but never would he have another operation. During all this long period he had had treatment every week, first as a "club," then as a panel patient. His

treatment consists of light dressings soaked in boric acid lotion with zinc sulphate and ammon. picrate solution; this has kept the elbow-joint useful. I have removed on several occasions a small sequestrum, but he has carried on his employment as a leather worker all these years, and is still at work at the age of 69.

Income Tax

Cost of Assistant's Board, etc.

"Spes" has claimed £150 per annum as the cost of the board and lodging of his indoor assistant. The inspector points out that the cost of a surgery maid and one-half of the rent, rates, and light and heat are already claimed and allowed as professional expenses.

** Though much must depend on the facts of the particular case it does seem that there is not much of the element of "lodging" to be claimed for by "Spes," seeing that it has to be covered by the "lodger's" share of one-half of the rent, etc.—the rent and rates not already allowed amount to £56 per year only. In the circumstances we suggest that a personal visit to the inspector's office might lead to a reasonable compromise.

Income from Dominions

"A. R." is resident in one of the Dominions, and has a private income on which he pays tax there of about £120 per annum. What would he pay if he resided in England?

** Assuming "A. R." to be married, but not entitled to "child" or other special allowances, his tax here would be:

	£	s.	d.
On the first £150	...	...	nil
On the next £175 at 2s. 3d. in the £	...	19	13 9
On the balance of £675 at 4s. 6d. in the £	...	151	17 6
	£171	11	3

Less Dominion income tax relief, which in the circumstances would represent apparently about half the above amount, leaving "A. R." in the position of paying £120 plus, say, £85 = £205, less any relief he might obtain from the Dominion authorities.

Employment of Wife

"J. G." explains that he has "paid his wife £25 a quarter for years," and "the work she does is worth at least £45 a year," which is all he claimed. The inspector of taxes has refused the claim on the authority of a decision in the case of *Thomson v. Bruce*.

** The allowance of £45 in respect of the earned income of the wife presupposes that the wife's earnings have been assessed. "J. G." does not state whether he returned his wife's "income" for assessment. That was one of the points in the case cited. Another was that accounts had been lodged which did not show the wife's wages as paid out of the business receipts. The question is really one of fact—that is, it is for "J. G." to prove (a) that he did pay wages to his wife for the work she did in the practice, and (b) that he has been assessed in respect of her earnings.

LETTERS, NOTES, ETC.

The G.P.'s Nightmare

To those who may have had similar dreams, this one of Dr. J. Vergely's may bring the comfort of a fellow-sufferer. We translate it from the *Journal de Médecine de Bordeaux*, 1934, xxv, 681.

I have had a frightful dream. I distinctly saw coming towards me a man with his flesh flayed and large tears running from his eyes; in spite of this horrible mutilation, he walked and spoke without difficulty. When he reached the place where I was, he stopped and made a sign that he wished to speak with me. "Who are you?" I asked. "Who am I?" he replied. "I am the last survivor of a disappearing race, one which, when I am gone, will become completely extinct. . . . I am a practitioner of general medicine. No doubt you are surprised to see me in such a sorry state, but it is all the fault of those specialists. They have taken everything from me, even my skin, bit by bit. As you see, they have left only my eyes, so that I can weep. Ah! how magnificent was the life I used to lead, and who would have said that I

should come to this? But, let me tell you, my condition was not always so deplorable. When I began the practice of medicine I was, if not exactly rich, at least properly clothed; and I tried my best to care for suffering humanity. Up to the time of the war things went on in much the same way. True there were already specialists. Besides the surgeons and, within their ranks, the genito-urinary surgeon, the gynaecologist, and the orthopaedic surgeon, there were also the obstetrician, the dermatologist, the oto-rhino-laryngologist, the dentists, the radiologists. But that was almost all, and these specialties seemed to us to be justifiable. But since the war! Ah! my good sir, there have sprung up the foot specialists who have taken our feet from us, the cardiologist the heart, and the tuberculosis experts who, under the guise of this disease, have stolen all the maladies of the lung. I will not refer to the paediatric physicians, more wildly specialized than before, nor to the neurologists or the psychiatrists, who speak a language which becomes more and more esoteric. Then there are the specialists for rheumatism, lymphatism, and much else besides; and the last thing I heard of was that there were specialists for diseases of the vessels and for endocrine disorders. I tell you truly that they have taken everything from me, bit by bit, and have left me only my eyes to weep with. Ah! he cried, striking his chest, "I will go and specialize in unknown diseases."

Treatment of Trichophyton Infection

"M.D." writes: The difficulty in effecting a cure of trichophyton infection of the fourth interdigital spaces of the feet has recently been alluded to. The experiences of a sufferer may be of assistance. For several years I have persevered with a number of treatments, often for several months each. All have failed to produce improvement with one exception. Cignolin (Bayer) grains x in benzol 3i is the exception. A solution of silver nitrate, x rays (1/4 pastille on one occasion, 1/2 pastille on another), Castellani's fuchsin paint, chrysarobin ointment (8 per cent.) have all proved completely ineffective. Whitfield's ointment, containing salicylic acid grains xx and benzoic acid grains xxv to an ounce, applied nightly on pledgets of cotton-wool, produced almost intolerable smarting and a marked extension of the disease, so that the whole interdigital skin, up to the tips of the affected toes, became white and infected. Cignolin alone has produced improvement; but of cure I begin to despair.

Lethal Noises

Dr. W. J. BURNS SELKIRK (Birmingham) writes: In reading Dr. Dan McKenzie's paper on "Noise and Health," in the *Journal* of October 6th (p. 636), I recollected two curious instances of the effect of noise given in Hudson's book, *A Hind in Richmond Park*. (1) A baby died as a result of an explosive sneeze by another person in the room. (2) A man had so loud a voice that when, in temporary forgetfulness, he shouted loudly at his ox the ox fell dead. I think the sudden shriek of the whistle of a passing railway engine can cause fits of terror in a baby for months afterwards.

Medical Golf

The autumn meeting of the Sussex Medical and Dental Golfing Society was held on the course of the Dyke Golf Club, Brighton, on September 30th, when twenty-eight members were present. The weather was fine and warm, although there was a strong wind. The morning round, for the captain's prize (presented by Dr. A. E. Drynan), against bogey resulted in a win for Dr. H. Butcher with a score of 2 up; M. W. Pilcher was second (1 up), and the prize for the sealed holes was won by Dr. J. M. Anderson. In the afternoon the competition took the form of a four-ball foursomes against bogey, resulting in a win for Drs. Bond and Devlin (4 up), the runners-up being Drs. J. Thwaites and J. K. Raymond, who tied with Drs. G. Thwaites and A. E. Drynan, with 2 up.

George Newnes Limited announce the publication, in fortnightly parts, of a popular work entitled *An Outline of Modern Belief*, by J. W. N. Sullivan and Walter Grierson.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 47, 48, 50, 51, 54, and 55 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 52 and 53.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 212.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

274 Prevention of Serious Arsphenamine Reactions

According to M. SCARF (*Journ. Amer. Med. Assoc.*, June 30th, 1934, p. 2159), who records six cases, a large proportion of fatal or disabling reactions due to the administration of arsphenamine may be prevented by a careful evaluation of symptoms and signs occurring in syphilitic patients under this treatment. One case of aplastic anaemia developed under neoarsphenamine therapy when two injections were given after the appearance of purpura. In one of the two cases of hepatitis, one injection of this preparation was administered after the patient had complained of itching. Haemorrhagic encephalitis occurred as a complication in a case of gonorrhoeal arthritis with a negative Wassermann reaction in which two injections of this drug were given in increasing doses, although an eruption had followed the first one. In a case of aneurysm of the aorta, rupture followed neoarsphenamine therapy, which had been too vigorous, and had not been preceded by a preparatory course of the milder antisyphilitic drugs. A case of transverse myelitis, due to a rare and usually fatal form of Herxheimer reaction, terminated in complete recovery. Scarf argues that, while the occurrence of haemorrhagic encephalitis might have been held to be unpredictable and unavoidable, it may be doubted whether a drug capable of producing such serious sequels should be used in gonorrhoea or any other disease in which its capacity for good has not been definitely established. Moreover, a maculo-papular rash had followed the first injection, but this indication of intolerance was ignored. The author concludes that the slightest sign of intolerance should receive great attention when arsphenamine products are being administered, and that the risk to the liver should be always borne in mind if itching occurs, and even in the absence of jaundice.

275 Complications of Diphtheria Immunization

L. J. ICHARD (*Thèse de Paris*, 1934, No. 140), who records ten illustrative cases, seven of which occurred in children aged from 26 months to 8 years, and three in adults, states that immunization against diphtheria by anatoxin has given rise to the following series of complications: (1) local inflammatory reactions, such as oedema at the site of injection and non-suppurative adenitis and a general febrile reaction; (2) less frequently, complications resembling serum sickness, such as urticaria and various eruptions with or without arthralgia or myalgia and even paresis of the lower limbs; (3) rarest of all, haemorrhagic complications, such as purpura haemorrhagica and haemorrhagic nephritis. The explanation of these complications is to be found in the individual who is specially sensitive to the proteins of the diphtheria bacillus and not in the anatoxin itself. To avoid such complications the following rules should be observed. As far as possible only young children should be immunized, 18 months being the most suitable age. In the case of children over 7 years of age and adolescents, only those who are Schick-positive should be inoculated. Special precautions should be taken with those showing a pseudo-positive reaction. In such cases Zoeller's anatoxin reaction should always be performed before vaccination. Immunization is contraindicated in cases of pulmonary tuberculosis, cardiac affections, or renal or blood diseases. Convalescents from diphtheria or other acute diseases should not be inoculated, but one should wait until at least two months after recovery.

276 Surgical Operations in Pernicious Anaemia

R. G. HÄHN (*Amer. Journ. Med. Sci.*, July, 1934, p. 60) reports a series of thirty-two cases of pernicious anaemia in which operations were required. Discussing the influence of the operation on the disease, he comes to the

conclusion that intensive pre-operative treatment and special care afterwards induce a satisfactory degree of tolerance, and render the patients good surgical risks. He points out, however, that in these cases there seems to be a definite tendency to the precipitation or increased development of neurological symptoms. These must therefore be forestalled by intensive liver therapy beforehand. In the author's thirty-two cases no deaths occurred which could be attributed directly to the operation. In eight cases operated on before the introduction of liver therapy many blood transfusions were necessary in each instance; in the remaining cases blood transfusion was only twice employed. The operations were deferred, if possible, until the red blood cell count had been brought within the normal range. If an immediate surgical intervention was indicated, the operation was performed, and the patient received intensive liver therapy. After the operation it was not found difficult to restore the red blood cell count. There were three deaths, all in cholecystectomy cases, recalling, as the author points out, the possible relationship between biliary and hepatic disease and pernicious anaemia. All had moderate subjective nervous symptoms, and in two these became worse after the operation. Many of the patients in the series had sources of blood loss or infection which rendered operative treatment necessary. The removal of these sources appeared to have a definite therapeutic value, for subsequent blood counts showed an increase in the number of erythrocytes.

Surgery

277 Primary Carcinoma of the Lung

A. YOUNG (*Ann. of Surg.*, July, 1934, p. 1) points out that successful surgical intervention in primary carcinoma of the lung is rarely possible owing to the relative infrequency of a localized tumour being situated well out in the lung parenchyma, and to the difficulty and delay in diagnosis. In over 90 per cent. of cases the disease originates in the region of the hilum and spreads into the lung and the mediastinum, so that surgical extirpation is impossible. It is hoped that in the remaining 10 per cent. earlier diagnosis may be made by means of x-rays. A case is reported of primary carcinoma of the upper lobe of the left lung in a man of 42. The symptoms were pain and stiffness in the joints and a slight cough, with an irregular temperature. X-ray examination showed the presence of a rounded shadow in the upper part of the left chest. Artificial pneumothorax was carried out, and subsequent x-rays showed that the mass was in the substance of the lung and was not adherent to the chest wall. Trap-door thoracotomy, followed by lobectomy, was carried out. The patient's condition was good for about two weeks, but then a limited apical pleural effusion became evident and it was necessary to carry out the excision of the eighth rib for drainage. As the discharge persisted a thoracoplasty was performed, and convalescence was then uneventful. The patient was seen two years later and photographs are shown to illustrate the comparatively slight deformity of the chest and the extensive range of movement of the left upper limb. Local and general conditions were satisfactory in every way.

278 Epigastric Hernia

O. MIKKELSEN (*Ugeskrift for Læger*, July 12th, 1934, p. 748) publishes a study of the forty-three cases of hernia between the umbilicus and xiphoid process observed in his hospital in Denmark in the period 1920-32. The relative frequency of epigastric hernia is indicated by the numbers of other hernias observed in the same hospital and period—206 cases of umbilical hernia, 426 cases of crural hernia, and 2,238 cases of inguinal hernia. The opinion that epigastric hernia is congenital is discredited

by the observation that it is hardly ever seen in children or adolescents; among the author's cases there were only two children, aged 7 and 12 respectively. The assumption that the origin of epigastric hernia is often traumatic seems also incorrect in the light of the author's material, which did not include a single traumatic case. He considers the term "epigastric hernia" a misnomer, for oftener than not the condition is due to a preperitoneal lipoma without any hernial sac. In five cases the onset of the symptoms was stormy, with violent pain in the middle of the epigastrium, whence it radiated to both sides, and with vomiting. In all these cases the diagnosis on admission to hospital was incarcerated epigastric hernia, but in no case was incarceration found on operation. With regard to the interpretation of the symptoms, it should be noted that the pain of epigastric hernia is always independent of the nature of the food; and in the one case in which the patient associated the pain with certain articles of food, it transpired later that he also suffered from duodenal ulcer. The only treatment for epigastric hernia is an operation, and it might have been supposed that it would always prove successful, but the author's own observations and the statistics of other surgeons suggest that a goodly proportion of failures is inevitable. These patients seem often to be subject to other ailments, and among the thirty-three of the author's patients who were operated on, there were as many as five who died soon after discharge, although none of them was old.

279 Treatment of Fractures in Children

Dealing only with fractures in children under 14 years of age, A. MARIQUE (*Le Scalpel*, July 7th, 1934, p. 949) describes their treatment under three heads: immediate reduction, with or without radiological control, and application of a plaster cast; progressive reduction by continuous extension; and reduction after surgical intervention with or without osteosynthesis. He considers the last-named to be the surest method of obtaining a perfect reconstitution of the bone. Brief comments, with notes on illustrative cases, are made on the fractures most frequent in childhood. These are the femoral and humeral diaphyses, supracondylar fracture of the humerus and of its surgical neck, and fractures of the tibia, forearm, and clavicle. Reduction, even if radiologically controlled, followed by plaster application, is not advocated. Continuous extension should be tried in possible cases: horizontal extension is ineffective. Should this method fail after four or five days' trial, osteosynthesis should be performed.

Therapeutics

280 Irradiation of the Pituitary in Graves's Disease

According to G. ÉTIENNE and P.-L. DROUET (*Bull. de l'Acad. de Méd.*, July 10th, 1934, p. 86) idiotherapy of Graves's disease is not always effective, and must always be protracted: partial thyroidectomy gives improvements which are not always complete and never include disappearance of the exophthalmos. These authors regard exophthalmic goitre as a malady of the pituitary as well as of the thyroid gland, basing this view chiefly on (1) the hypophyseal hypertrophy which accompanies congenital or acquired thyroid aplasia; (2) the occurrence in Graves's disease of clinical signs of hyperpituitarism (a contraction, pituitary in type, of the visual fields for white light and colours, and also the presence in the urine of hypophyseal principles, giving a melanophore reaction); (3) the persistence of these two signs after thyroidectomy; and (4) post-mortem evidence of increased volume or increased functional activity in the pituitary of a patient with toxic goitre. It is, therefore, they say, logical as well as requisite to associate with the usual treatments means directed to reduction of pituitary activity. They record five cases in which α -radiation of the hypophysis was employed, in four as the sole therapy. They noted: (1) general gain of strength, with improvement in tachycardia and tremor;

(2) improvement in exophthalmos, which practically disappeared in three cases; (3) a diminution in the basal metabolic rate, which became normal in two cases and subnormal in one; and (4) an enlargement of the visual fields in one case at least. The improvement was accompanied in three instances by considerable reduction of blood pressure, especially the systolic. In general the writers envisage radiation of the hypophysis as a treatment adjuvant to idiotherapy and thyroid α -radiation, and one which may replace partial thyroidectomy.

281 Breathing Exercises in Treatment of Hypertension

L. G. TIRALA (*Med. Welt*, July 7th, 1934, p. 946) finds that a reduction in systolic blood pressure, which is notoriously difficult to bring about by drug treatment, can nearly always be secured—even to the extent of 50 to 100 mm.—in hypertonic subjects who are made to do deep breathing exercises for five minutes three times a day for three or four weeks. The reduction in pressure is maintained if the exercises are persevered with afterwards. The diastolic pressure also is reduced, but to a less extent. The patient is taught to take deep slow breaths of a predominantly abdominal type ("as if to burst a girdle round the belly") followed by slow expirations during which an "oo" sound is hummed through the closed mouth. Training increases the length of expirations from ten to thirty seconds or more. The exercises are done in the first place in the recumbent position in those with very high pressures. As an adjuvant measure it is sought to lower the diaphragm by clearing the bowel of gaseous and other contents by administration of saline aperients and animal charcoal. The subjective symptoms accompanying hyperpiesis disappear, it is stated, as the pressure drops. Tirala does not hesitate to prescribe breathing exercises in hypertonics in whom morbid organic cardiovascular conditions have become established. The good effects are attributed to (1) increase of the left ventricular output, with reflex vaso-dilatation from stimulation of the aortic depressor nerve; (2) production of a relative alkalosis; and (3) a diminution of tone in the vaso-constrictor centre. Early in the course of treatment the blood pressure sometimes shows a temporary increase.

282 Prostatic Hypertrophy in General Practice

H. BISGAARD (*Hospitalstidende*, July 24th, 1934, p. 20) criticizes the hospital treatment of hypertrophy of the prostate, and emphasizes the benefits enjoyed by the patient who remains at home, up and about, in the care of the general practitioner, whose main solution for retention of urine and allied ailments is the occasional use, for a few days, of an elastic permanent catheter secured in place by the looping on itself of the bladder end of the catheter, the loop being controlled by a fine wire passing through the catheter. The author began his twenty years' experience with hypertrophy of the prostate in a hospital where the patients were kept in bed, their bladders irrigated with silver nitrate. Suprapubic cystostomy added further to their troubles. When, in general practice, he noticed how much better this class of patient fared when kept out of bed he began to see in confinement to bed the main cause of congestion of the parts concerned, with consequent obstruction to the normal flow of urine. Silver nitrate he came to regard as actually harmful—as an irritant responsible for increased inflammation of the bladder. As for cystostomy, it may indeed afford temporary relief, but it is the beginning of a long chapter of unnecessary troubles. When, therefore, the prostate cannot be treated directly by prostatectomy, the α rays, or diathermy, and only palliative treatment is indicated, hospital treatment should be shunned in favour of intelligent ambulant treatment, which possesses the additional merit of not uprooting old folks from their homes, to whose environment and dietetic ways they have become so accustomed that admission to hospital and all that this implies entail a considerable psychic shock. The author illustrates his article with reproductions of the permanent catheter he has devised, and which is made by the Danish firm of Simonsen's and Weel's Efterfølger.

Dermatology

283 Sensitization Tests in Skin Diseases

H. V. MENDELSON (Arch. Derm. and Syph., June, 1934, p. 845) records conclusions drawn from an allergic study of 262 patients with cutaneous diseases. A detailed and careful history was obtained in each case, and the following allergy tests were made: dermal or scratch method, intradermal method, indirect or passive transfer test, and patch test. Most commonly the intradermal method was employed; Mendelsohn considers this more reliable than the scratch method and free from danger when properly performed. The dermatoses included eczema, urticaria, and dermatitis venenata (80 per cent. of the cases), and also prurigo, erythema multiforme, angioneurotic oedema, and neurodermatitis. Cases were selected in which an allergic cause was suspected, and 12,600 tests were performed, of which only 1,237 were positive. Of these, 12,486 were intradermal, the reactions being negative in 11,287. In 114 tests by the patch method thirty-eight reactions were positive. The passive transfer method was used to check eighty-four positive intradermal reactions, but only thirty-six were confirmed as positive. Mendelsohn concludes, therefore, that intradermal tests are of little value in demonstrating the cause of skin diseases. Most of the positive reactions thus obtained are of no practical significance. Positive reactions to food substances or inhalants administered intradermally to patients with cutaneous diseases are far less specific than similar reactions to pollens in patients with hay fever. The indiscriminate subjection of patients with dermatoses to a large number of skin tests is held by the author to be unjustifiable. Far greater aetiological help can be obtained by securing a proper history and making a correct dermatological survey. Mendelsohn holds, however, that patch tests are of decided value, especially in cutaneous diseases due to external irritants.

284 Treatment of Psoriasis

J. GOUIN and A. BIENVENUE (Bull. Soc. Franç. de Derm. et Syph., April, 1934, p. 678) present a study of psoriasis, based on twenty-four cases; short notes of which are given, which shows that this condition very frequently develops in subjects with a tuberculous diathesis, less often in mixed tuberculosis and syphilis, and only exceptionally in simple syphilis. The leucocytic reactions to the respective specific medicaments (gold salts and anti-syphilitic remedies) were first ascertained. Positive (hyperleucocytic) or negative (leucopenic) reactions were sure diagnostic indications as to the basic origin of the disease and, therefore, as to treatment. Two important factors for the cure of psoriasis are removal of the scales, these acting as a screen against the future treatment, and prolonged exposure to the air and light. The former is obtained by daily washings with soap; actual scraping of the lesions, as in cutaneous tuberculosis, is unnecessary. Exposure to the air and light should be of four hours' duration daily; to shorten this period, ultra-violet rays may be employed. In addition to these measures, internal treatment with gold salts or antisyphilitic specifics, according to the leucocytic reactions, should also be given; in cases showing a mixed origin both remedies should be combined. This form of treatment is not only useless but also dangerous in cases with negative reactions.

285 Successful Treatment of Vitiligo

Vitiligo has long been regarded as an incurable condition, but N. BURGESS (Brit. Journ. Derm. and Syph., July, 1934, p. 313) records the case of a girl, aged 13, in which old treatment has apparently proved effective. Patches of vitiligo were present above the left eye and on the right temple. To them was applied twice a day a 10 per cent. solution of oil of bergamot. Sanocrysin in 0.05 gram doses was injected intravenously once a week, and the affected parts were exposed to ultra-violet light each

week from an air-cooled mercury vapour lamp. The surrounding skin was protected from the rays, and only the leucodermic areas were left bare. Pigmentation began at the end of three weeks, but the full treatment was continued for another seven weeks. At the end of this time pigmentation was complete, but it was thought advisable to continue the applications of light and oil of bergamot for another three months. There has been no recurrence.

286 Sensitization to Adhesive Plaster

J. V. VAN CLEVE (Urol. and Cut. Rev., July, 1934, p. 439) records two cases, in a man aged 52 and a woman aged 26, in which application of adhesive plaster was followed by severe vesiculo-pustular dermatitis. As a result of patch tests the aetiological agent was found to be orris root, which is the constituent of most commercial adhesive plasters. The writer maintains that a more general use of the patch test would show that many cases of eruption following the use of adhesive plaster would fall into the group of sensitization dermatitis.

Obstetrics and Gynaecology

287 Malignant Ovarian Tumours and Pregnancy

According to P. TRILLAT and A. PUTHOD (Gynéc. et Obstét., June, 1934, p. 513) the presence of a malignant ovarian tumour does not prevent conception, which is, however, very rare. The evolution of pregnancy is disturbed to a remarkably small extent, and there is no evidence of noxious effect on the foetus. Contradictory opinions have been advanced concerning the effect of pregnancy on the tumour development, but it is certain that pregnancy does not stimulate growth of an ovarian tumour in the acute fashion which is the rule in mammary cancer. Two cases are recorded, in both of which the tumour had been well tolerated during pregnancy. In the first it was not suspected until the head was found to be mobile and to remain high after cephalic version at term. The second patient, a four-para aged 27, had noted but not reported abdominal enlargement for three years; the presence of a large ovarian cyst was discovered the day after spontaneous delivery. Concerning treatment the writers believe that a malignant ovarian tumour discovered during the first half of gestation indicates speedy operation at which the foetus need not be considered; in the second half expectant measures are justified until term is near at hand.

288 Menstruation after Conception

K. HEIM (Zentralbl. f. Gynäk., July 14th, 1934, p. 1641) quotes contradictory views concerning the occurrence of menstruation after conception. Zangemeister in 1927 stated that the occurrence of menstrual bleedings, somewhat diminished, during pregnancy is not altogether uncommon (a single period occurring in 0.2 and repeated periods in 0.1 per cent. of cases respectively). Typical menstruations, undiminished, occur in some 0.05 per cent. of pregnancies. Döderlein and others, regarding the question from the medico-legal standpoint of paternity cases, have deemed that menstruation can occur after conception; and some, defining menstruation as cyclical bleeding due to ovulation, and denying that ovulation takes place during pregnancy, would regard "menstruation during pregnancy" as a contradiction in terms as well as a practical impossibility. This argument has, however, been shattered by experimental induction of ovulation in pregnant animals by injection of prolactin or other anterior pituitary preparation. Heim records in detail the case of a physician's wife who seventeen to twenty-five days after conception, fourteen days after the commencement of the preceding menstruation and ten days before that of the next, expelled an ovum which was histologically shown to be 15 to 19 days old. The men-

struation preceding the abortion appeared normal in every way, and Heim has no doubt that this case proves the occasional occurrence of menstruation after conception. Further evidence is seen in a case, also recorded, in which what was regarded as a small cervical polypus, removed eighteen days after apparently normal menstruation, was found to be an ovum; curetting of the cavum gave issue, in addition to decidual areas with necrosis and inflammation, to non-decidual endometrium showing a secretory phase.

289 A New Hypnotic in Labour

F. P. SCHOENES (*Deut. med. Woch.*, July 13th, 1934, p. 1054) reports from a maternity hospital in Königsberg his tests with R 239, or "rectidon," which is the sodium salt of the secondary amyl- β -bromallylmalonylureids. Administered per rectum, it is a powerful hypnotic, inducing sleep in a quarter of an hour. For the induction of twilight sleep, from 7 to 8 c.cm. are injected through a Nelaton catheter into the large intestine after it has been emptied by an enema. The drug is given as soon as regular labour pains have set in and the os has begun to dilate. If the drug is given at a later stage of labour, care must be taken to introduce the catheter so far that the drug is deposited above the level of the descending head; otherwise a rapid succession of labour pains may force the drug out of the rectum. Even when the patient has been nervous and excited, she ceases to groan and scream fifteen to thirty minutes after the administration of this drug; and, sleeping between each labour pain, she is awakened by it and co-operates actively with it. Multiparae, with past experiences as criteria, were very appreciative of the drug. It has no injurious effect on the labour pains, and though it provokes a certain degree of amnesia, the patients respond intelligently to the instructions given them. No ill effects on the child have yet been observed. But chloroform cannot be dispensed with during the passage of the head, as the retention of reflex excitability is apt to favour injury to the perineum.

Pathology

290 Examination of Fresh Tissues by the Wet-film Method

L. S. DUDGEON and N. R. BARRETT (*Brit. Journ. Surg.*, July, 1934, p. 4) report on the application of the wet-film method of examination of new growths and inflammatory diseases to pathological processes generally, basing their conclusions on a series of over 1,000 cases. Malignant cells were found to be easily distinguishable from their benign prototypes, by their staining more deeply and their nuclei having a greater affinity for haemalum. They varied in size and shape, were larger than normal, and their relative position to the adjacent cytoplasm was in no way constant. The value of wet films was found to be particularly evident in the diagnosis of the various pathological conditions of the lips, mouth, and tonsils. A small piece of tissue could easily be removed under a local anaesthetic, and the diagnosis could often be determined at once. Papillomata of the bladder and renal pelvis were earlier diagnosed as carcinomatous in wet films than in sections. It proved difficult sometimes to differentiate chronic mastitis from a normal breast in a wet-film preparation, but in the former, although the epithelium was scarce, there was revealed a fibrous tissue stroma, groups of enlarged and partly degenerated cells from the cyst walls or dilated ducts staining pink with eosin, and foam cells. The authors point out that a diagnosis of "simple" as opposed to "malignant" is the desideratum in most cases, and this should not be difficult except in proliferative mastitis. In this, however, the epithelial cells were found to be very numerous, small, deeply stained, and arranged in placards, but with indistinct cell boundaries. The finding

of malignant cells in tissues which were apparently normal in appearance, and at some distance from the original focus of disease, was achieved in a large percentage of cases examined with this end in view. Various errors possible in diagnosis from wet films are recorded, and detailed reference is made to pitfalls that may be expected. A number of instances are given in which the diagnosis suggested from the wet film was more complete or more accurate than that of the corresponding section. This occurred most frequently in the diagnosis of tuberculosis. Most of the mistakes in diagnosis were due to errors in technique.

291 New Method for Detection of Occult Blood

I. BOAS (*Klin. Woch.*, June 30th, 1934, p. 942) describes a new method for the examination of occult blood in the faeces. The reagent is a 0.2 per cent. solution of 2.7 diamino-fluorine-chloral hydrate in 50 per cent. acetic acid. It does not deteriorate with keeping, and remains in the same concentration, thus having an advantage over benzidine and guaiacum. A fine smear of carefully washed faeces is made on a clean slab. Pure acetone is poured on and, after gentle shaking of the slab, it is allowed to stand for five to ten minutes. If the smear contains much colouring matter, decolorization is repeated two or three times with acetone. Five c.cm. of absolute alcohol and ten drops of glacial acetic acid are then poured on the faeces, and the slab is gently shaken to and fro, and then allowed to stand for some minutes. The alcohol is poured off, and 3 to 5 drops of the reagent together with 3 to 5 drops of freshly prepared hydrogen peroxide solution are added to the smear. If occult blood is present the smear turns green or blue with increasing intensity in a few minutes. The cleaner the material and the more haematin present, the greater is the intensity. If the smear is kept in a dark place it retains its distinctive colour for twenty-four hours, after which time it turns olive green. If only minute quantities of haematin are present, a late reaction occurs after ten to twenty minutes. If there is no haematin in the faeces, the green colour occurs only when the smear has stood for some time. Boas lays great stress on the thorough cleansing of the faeces with acetone, which dissolves the faecal colouring matter and concentrates the haematin present. The new reagent is not superior to benzidine in detecting minute quantities of occult blood, but it does not deteriorate, and the smear can be kept for several days.

292 Lysis of Human Blood by Cholera Vibrios

E. ZIMMERMANN (*Zeit. f. Immunitäts.*, July, 1934, p. 495) has compared the haemolytic activities of cholera and El-Tor vibrios on sheep and human blood. A synthetic fluid medium was used, made up with peptone, asparagin, and ammonium lactate, to which 5 per cent. of citrated blood was added. The tubes were inoculated and readings taken every day for four days. Of twenty-eight cholera strains tested on sheep blood only three produced good haemolysis; two others showed traces after three or four days. On the other hand, of eighteen El-Tor strains every one produced haemolysis within twenty-four hours. Tested on human blood twenty-seven of the twenty-eight cholera strains produced haemolysis, mostly within forty-eight to seventy-two hours. Only nine El-Tor strains were tested, and of these, eight produced haemolysis within twenty-four hours, and the remaining one after seventy-two hours. Experiment showed that the cholera haemolysin to human blood was thermostable, being destroyed at 65° to 70° C. within an hour. These strains had all been tested a year or so previously on sheep blood, and the same results had been obtained, suggesting that the reaction towards blood is a fairly stable property among the vibrios. Some of the strains had, moreover, been submitted to lysis by the bacteriophage and to animal passage, without any alteration in their haemolytic powers being produced. The author concludes that most true cholera vibrios are capable of lysing human but not sheep blood, while El-Tor vibrios are able to lyse both types of blood.

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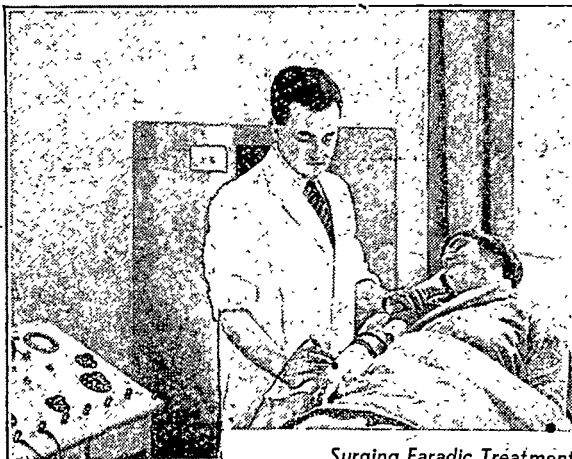
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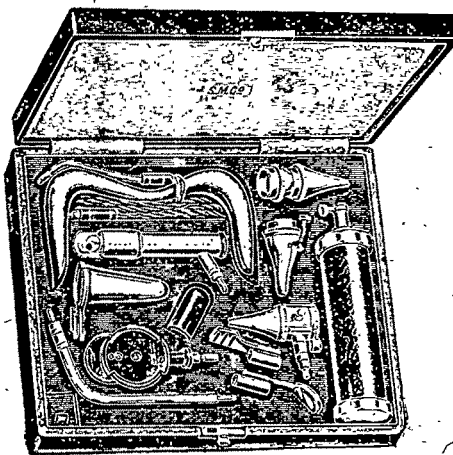
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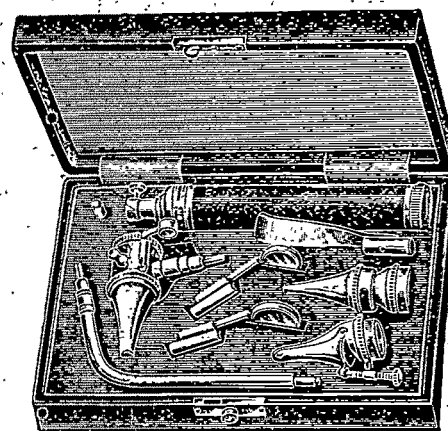


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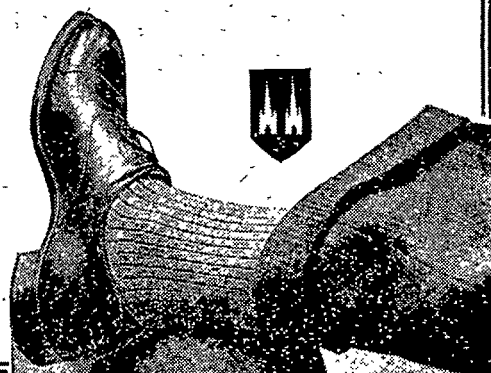
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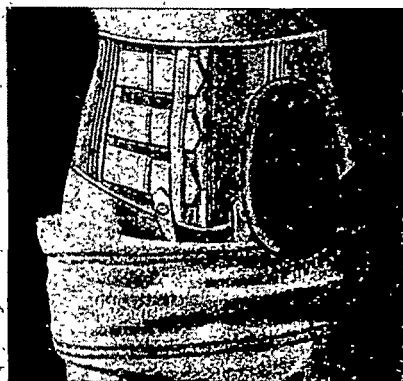
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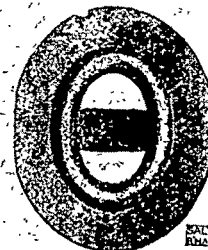


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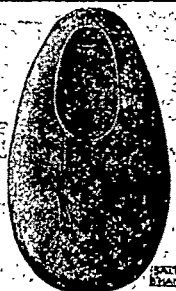
Showing big attached to receiver.



Showing rubber receiver with pad fitting next to body and rubber flange to prevent belt becoming soiled



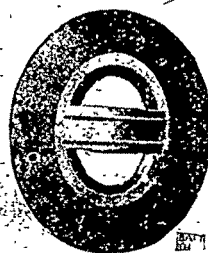
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Showing other views of receiver.

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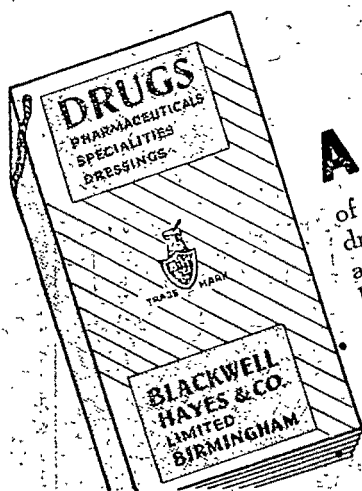
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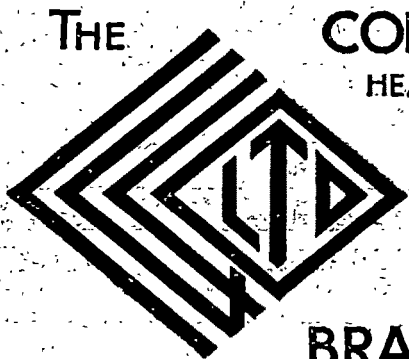
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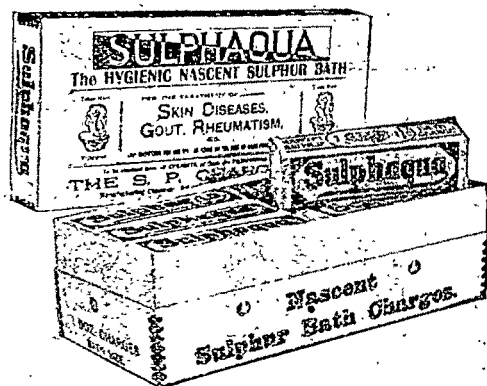
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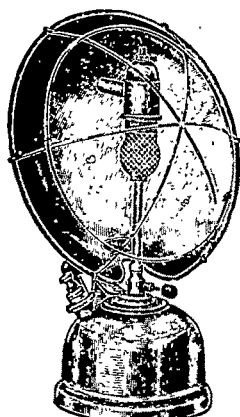
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November 4th—10.30. Dr. S. Cochrane Shanks: The Stomach after Operation, from an X-ray point of view. 11.45. Mr. J. Bright Banister: The Breech Case. Nov. 11th—10.30. Mr. M. L. Hine: Eyes in General Practice. 11.45. Mr. R. A. Fitzsimons: Undescended Testicle. Nov. 18th—10.30. Dr. Gordon Holmes: Paraplegia. 11.45. Mr. C. Jennings Marshall: Treatment of Urinary Infections. Nov. 25th—10.30. Dr. C. K. J. Hamilton: Anaemia in Childhood. 11.45. Mr. Norman C. Lake: Diagnosis and Management of Acute Appendicitis. December 2nd—10.30. Mr. L. R. Broster: Head Injuries. 11.45. Dr. A. A. W. Petrie: Paranoid States and Their Development. Dec. 9th—10.30. Dr. Russell J. Reynolds: Radium Therapy. 11.45. Mr. A. C. MacLeod: Renal Tuberculosis, illustrated by lantern slides. Dec. 16th—10.30. Mr. L. G. Brown: Minor Affections of the Ear. 11.45. Dr. R. A. Hickling: Demonstration of Cases. Open to all Post-Graduates. Fee for Course: One Guinea.

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For particulars apply to the Laboratory Secretary, School of Tropical Medicine, Pembroke Place, Liverpool, 3.

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The terms and conditions of the appointment, together with application forms, can be obtained from the undersigned, by whom applications should be received not later than Nov. 12th.

13, Tonbridge Road, GRAHAM WILSON,
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SUTTON AND CHEAM HOSPITAL.

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The successful applicant will be expected to do locum for the Resident Surgical Officer at every alternate week-end and at scheduled times as required. He shall reside outside the Hospital, excepting when taking the R.S.O.'s alternate week-ends. Applications, stating age, experience, qualifications, etc., together with copies of three recent testimonials, to be forwarded to the undersigned on or before October 31st next.

By Order of the Board,
HERBERT J. DAFFORNE,
General Supt. & Secretary.

COUNTY MENTAL HOSPITAL, PRESTWICH, MANCHESTER.

ASSISTANT MEDICAL OFFICER required (Junior). Commencing salary £500 per annum, rising to £600 by yearly increments of £25, plus £50 per annum on obtaining the D.P.M., less charges for board, furnished apartments, attendance, and laundry, valued at £150 per annum. Further increases, according to promotion.

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Wanted, a **JUNIOR RESIDENT MEDICAL OFFICER** to act as House Surgeon to Out-patients and as House Physician.

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Large Out-patient Department.

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October 12th, 1934.

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Wanted, a **SENIOR** and a **JUNIOR HOUSE SURGEON**. Salary respectively £150 and £100 per annum. Duties to commence November 15th. The present House Surgeon is a candidate for the senior post. Applications, stating qualifications, age, and nationality, to reach the Secretary before October 31st.

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NON-RESIDENT HOUSE SURGEON required, to commence duty forthwith on election. Experience in refraction work essential. Salary £100 per annum, with, in addition, an allowance of £150 per annum in lieu of board, residence, and laundry, the place of residence being subject to the approval of the Executive Committee. The appointment will be for six months in the first instance, the holder being eligible for a further period of six months.

Applications, stating age, qualifications, and with copies of testimonials, should reach the undersigned on or before October 31st next.

HAROLD BYGRAVE, Hon. Secretary.

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JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER (Male), unmarried, required for six months, commencing December 1st. Salary £300 per annum, with board, residence, and laundry allowance. Candidates must be fully qualified in medicine and surgery. Previous experience in tuberculosis also bacteriological work desirable.

Applications, in candidates' own handwriting, stating age and qualifications (with one copy of three recent testimonials), to be sent to the Medical Superintendent, Royal National Hospital for Consumption, Ventnor, Isle of Wight, not later than Saturday, November 3rd.

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H. G. PRICE, Secretary-Supt.

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ARTHUR R. CASH,
Oct. 15th, 1934. Gen. Supt. & Sec.

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RESIDENT MEDICAL OFFICER.

Applications are invited for the post of **Resident Medical Officer**, vacant November 22nd. Appointment for six months at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating qualifications, nationality, age, and experience, with copies of recent testimonials, to be sent to the Secretary.

ROYAL FREE HOSPITAL AND LONDON (R.F.H.) SCHOOL OF MEDICINE FOR WOMEN.

OBSTETRICAL AND GYNAECOLOGICAL UNIT.

Applications are invited from registered Medical Practitioners for the following appointments vacant on January 1st, 1935:

SENIOR ASSISTANT, part-time, £350;
SECOND ASSISTANT, full-time, £500;
THIRD ASSISTANT, full-time, £270, with residence.

Applications, accompanied by copies of not more than three testimonials, and the names of not more than two persons to whom reference can be made, should reach one of the undersigned, from whom further particulars may be obtained, by the first post on Saturday, November 10th. Nine copies of all documents must be furnished.

R. T. BARTLEY, Acting Secretary,
Royal Free Hospital, W.C.1.
LOUIE M. BROOKS, Warden & Secretary,
London (R.F.H.) School of Medicine
for Women, W.C.1.

LONDON JEWISH HOSPITAL, Stepney Green, E.1. (General Hospital—109 Beds.)

Applications are invited for the following posts:

RESIDENT MEDICAL OFFICER AND HOUSE PHYSICIAN. Salary at the rate of £150 per annum, with board and residence.

HOUSE SURGEON. Salary at the rate of £100 per annum, with board and residence.

CASUALTY OFFICER. Salary at the rate of £100 per annum, with board and residence.

The above appointments are for a period of six months, commencing December 1st next. Forms of application may be obtained from the Secretary, to whom candidates should send their application, with copies of three recent testimonials, on or before Friday, November 2nd.

THE GORDON HOSPITAL, Vauxhall Bridge Road, S.W.1. (45 Beds.)

A **RESIDENT HOUSE SURGEON** is required at the above Hospital. The appointment is for six months, with salary at the rate of £100 per annum, with board, residence, and laundry. Candidates are desired to send applications and full particulars as to age, qualifications, and experience, together with copies of three recent testimonials, to the undersigned not later than Wednesday, October 24th. Duties to commence on or about November 1st.

HUBERT F. REW, Secretary.

HERTFORD COUNTY HOSPITAL.

Applications are invited for the post of **HONORARY ASSISTANT PHYSICIAN** to the above Hospital.

Candidates should possess a degree in medicine of a British University or the Membership or Fellowship of the Royal College of Physicians.

Applications (16 copies), together with copies of testimonials, should be made by Monday, November 5th, to the undersigned.

PERCY G. BROOKS, Secretary.

OLDHAM ROYAL INFIRMARY.

CASUALTY OFFICER AND HOUSE SURGEON required for a period of six months.

Salary at the rate of £175 per annum, with board, residence, and laundry.

Applications, stating age, experience, and qualifications, together with copies of three recent testimonials, must be forwarded to the undersigned not later than October 23rd.

H. J. CLOUT, Gen. Supt.

NOTICE OF ELECTION.

MEDICAL ACT, 1886. (49 and 50 Vict. Ch. 48.)

NOTICE IS HEREBY GIVEN that pursuant to the Medical Act, 1886, an ELECTION of ONE MEMBER of the General Council of Medical Education and Registration of the United Kingdom, to represent the registered Medical Practitioners resident in ENGLAND, is about to be held.

Every registered Medical Practitioner is qualified to be nominated as a candidate.

Every candidate must be nominated by a separate nomination paper.

Every registered Medical Practitioner resident in England is entitled to take part in nominating a candidate.

Every nomination paper must state the name, registered address, and registered qualification or qualifications of the candidate nominated; it must be signed by not fewer than twelve registered Medical Practitioners resident in England, as nominating such candidate; and the registered address and registered qualification or qualifications of each one so signing must be appended to his signature.

Every nomination paper, accompanied by a declaration in writing signed by the person nominated, acknowledging that he consents to be nominated, must be delivered, by post or otherwise, on or before the 2nd November, 1934, addressed to Mr. MICHAEL HESELTINE, the Registrar, at the Medical Council Office, 44, Hallam Street, London, W.1, where forms of nomination papers may, on application by post or otherwise, be obtained.

Every nomination paper in respect of which any of these Regulations has not been complied with, or which is not received at 44, Hallam Street, London, W.1, on or before the 2nd November, 1934, will be invalid.

JOHN BERESFORD LEATHES, Returning Officer.

NOTICE OF ELECTION.

MEDICAL ACT, 1886. (49 and 50 Vict. Ch. 48.)

NOTICE IS HEREBY GIVEN that pursuant to the Medical Act, 1886, an ELECTION of ONE MEMBER of the General Council of Medical Education and Registration of the United Kingdom, to represent the registered Medical Practitioners resident in IRELAND, is about to be held.

Every registered Medical Practitioner is qualified to be nominated as a candidate.

Every candidate must be nominated by a separate nomination paper.

Every registered Medical Practitioner resident in Ireland is entitled to take part in nominating a candidate.

Every nomination paper must state the name, registered address, and registered qualification or qualifications of the candidate nominated; it must be signed by not fewer than twelve registered Medical Practitioners resident in Ireland, as nominating such candidate; and the registered address and registered qualification or qualifications of each one so signing must be appended to his signature.

Every nomination paper, accompanied by a declaration in writing signed by the person nominated, acknowledging that he consents to be nominated, must be delivered, by post or otherwise, on or before the 2nd November, 1934, addressed to Mr. RICHARD J. E. ROE, The Registrar, at the Branch Council Office, 35, Dawson Street, Dublin, where forms of nomination papers may, on application by post or otherwise, be obtained.

Every nomination paper in respect of which any of these Regulations has not been complied with, or which is not received at 35, Dawson Street, Dublin, on or before the 2nd November, 1934, will be invalid.

ANDREW FRANCIS DIXON, Returning Officer.

NOTICE OF ELECTION.

MEDICAL ACT, 1886. (49 and 50 Vict. Ch. 48.)

NOTICE IS HEREBY GIVEN that, pursuant to the Medical Act (1886), an ELECTION of ONE MEMBER of the General Council of Medical Education and Registration of the United Kingdom, to represent the registered Medical Practitioners resident in SCOTLAND, is about to be held.

Every registered Medical Practitioner is qualified to be nominated as a candidate.

Each candidate must be nominated by a separate nomination paper.

Every registered Medical Practitioner resident in Scotland is entitled to take part in nominating one candidate.

Every nomination paper must state the name, registered address, and registered qualification or qualifications of the candidate nominated; it must be signed by not fewer than twelve registered Medical Practitioners resident in Scotland as nominating such candidate; and the registered address and registered qualification or qualifications of each one so signing must be appended to his signature.

Every nomination paper, accompanied by a declaration in writing signed by the person nominated, acknowledging that he consents to be nominated, must be delivered, by post or otherwise, on or before the second day of November, 1934, addressed to Mr. T. H. CRAHAM, the Registrar, at 12, Queen Street, Edinburgh, where forms of nomination papers may, on application by post or otherwise, be obtained.

Every nomination paper in respect of which any of these Regulations has not been complied with, or which is not received at 12, Queen Street, Edinburgh, on or before November 2nd, 1934, will be invalid.

ALEXANDER MILES,
Returning Officer.

MINISTRY OF HEALTH. APPOINTMENT OF DEPUTY REGIONAL MEDICAL OFFICERS.

The Minister of Health invites applications from registered Medical Practitioners (men and women) for appointment as Deputy Regional Medical Officer on the staff of the Ministry in various part of England for the discharge of combined clinical and administrative duties in connection with the National Health Insurance Medical Service.

The normal scale of salary is £800 per annum, rising by annual increments of £30 to a maximum of £1,100. These rates are at present subject to temporary abatement, and the current scale of salary rises from a minimum of £770 per annum to a maximum of £1,045 per annum.

Successful candidates under the age of 50 years will be appointed to this scale and will be established Civil Servants with the usual conditions as to pension, etc.

Successful candidates of the age of 50 years and upwards (at the time of appointment) will be remunerated on the above scale and will receive unestablished non-pensionable appointments. In special circumstances, where a candidate in this category has special qualifications and experience, the commencing salary may be advanced to a point in the scale at present in operation not exceeding £950 per annum, inclusive.

Above the grade of Deputy Regional Medical Officer there are at present thirty-one posts of Regional Medical Officer rising to a normal maximum of £1,400 per annum inclusive, and five posts of Divisional Medical Officer rising to a normal maximum of £1,600 a year inclusive. These rates are also subject to a temporary abatement, the current maxima being £1,330 and £1,520, and the above numbers are subject to revision from time to time as the exigencies of the Service may determine. When vacancies are to be filled among the Regional Medical Officers, preference will be given to those who have served as Deputy Regional Medical Officers.

Candidates must be Medical Practitioners of not less than ten years' standing and not exceeding the age of 55 years, with a wide experience of general practice, especially amongst the industrial population.

Deputy Regional Medical Officers are required to devote their whole time to the Public Service and to perform such duties as may be assigned to them by the Minister from time to time. These include acting as deputy to the Regional Medical Officer in the work carried out by the latter:

(a) as Medical Referee in cases of insured persons referred for a second medical opinion on questions of incapacity for work, or of restoration of working capacity;

(b) in assisting in the administration of the Insurance Medical Service.

Deputy Regional Medical Officers must be prepared to reside in the area from time to time assigned to them.

Canvassing Members of Parliament or Officers of the Ministry will render a candidate liable to disqualification.

Forms of application, with further particulars of the appointment, may be obtained from the Director of Establishments, Ministry of Health, Whitehall, S.W.1.

No application can be considered unless received on the prescribed form not later than November 10th.

SWANSEA COUNTY BOROUGH. LADY ASSISTANT MEDICAL OFFICERS.

The Swansea Borough Council invite applications from duly qualified and experienced Women Medical Practitioners for the post of Assistant Medical Officer to assist with the medical services of the Corporation. Hospital Resident posts with special experience in Diseases of Women (ante-natal and obstetrics) and Children, and School Medical Service, and Mental Deficiency work are desirable qualifications. Salary £500, rising by £25 to £700 per annum. Form of application and list of duties can be obtained from Dr. THOMAS EVANS, Medical Officer of Health, Public Health Offices, Swansea. Applications must be received not later than Wednesday, November 7th.

SWANSEA COUNTY BOROUGH. RESIDENT MEDICAL OFFICER. INFECTIOUS DISEASES HOSPITAL.

The Council invite applications for the above appointment from duly qualified unmarried (male) Medical Practitioners. The salary will be at the rate of £350 per annum, together with emoluments. Previous experience in an Infectious Disease Hospital is desirable. The appointment is for one year.

Applications (on special forms with particulars of duties) can be obtained from the Medical Officer of Health, Public Health Offices, Swansea, to be sent in not later than November 7th.

OFFICIAL APPOINTMENTS: CITY OF BIRMINGHAM MENTAL HOSPITAL (WINSON GREEN DIVISION.) JUNIOR LADY ASSISTANT MEDICAL OFFICER.

The Committee of Visitors invite applications for the above whole-time appointment from ladies under 35 years of age who are duly qualified and registered Medical Practitioners. A person who has held, for at least six months, a medical or surgical residential post in a General Hospital will be regarded as having an additional qualification.

The successful candidate should be a good Anaesthetist.

She will be required to reside in the Hospital.

The commencing salary will be £350 per annum, plus the usual residential emoluments of board, lodging, laundry, and attendance. Subject to 12 months' service satisfactory to the Committee, an increase of £50 will be granted, and thereafter increases of £25 per annum up to a maximum salary of £450 per annum. An additional £50 per annum will be paid to the holder of the D.P.M. qualification or to a person obtaining the D.P.M. after appointment. The salary is inclusive of all fees received, and any such fees must be accounted for and paid into the Hospital account.

The successful candidate will be required to pass satisfactorily a medical examination and to join the scheme under the Asylums Officers Superannuation Act, 1909. She will be required to serve in such Institution belonging to the Mental Hospitals Committee as they may from time to time direct. The appointment is subject to one month's notice on either side.

Applications, stating full particulars of qualifications, experience, and appointments held, accompanied by copies of three recent testimonials, must be addressed to the undersigned so as to be received not later than Nov. 2nd.

F. H. C. WILTSHIRE,
Clerk to the Committee of Visitors.
Town Clerk's Office, Council House,
Birmingham.

CITY AND COUNTY OF NEWCASTLE-UPON- TYNE. BARRASFORD SANATORIUM. (100 Beds.) RESIDENT MEDICAL ASSISTANT.

Applications are invited for the above post from duly qualified and registered Medical Practitioners who have held a previous resident appointment.

The Sanatorium is fully equipped for the treatment of male and female cases of pulmonary tuberculosis. The post does not provide facilities for the taking of the D.P.H.

The salary in respect of the appointment, which is tenable for one year only, is £250 per annum, with board, lodgings, etc.

Applications on the prescribed form, which can be obtained on application to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne, must be submitted not later than Saturday, November 3rd.

COUNTY BOROUGH OF BURNLEY. MUNICIPAL GENERAL HOSPITAL. APPOINTMENT OF RESIDENT SURGICAL OFFICER.

Applications are invited for the position of Male Resident Surgical Officer of the Municipal General Hospital (280 Beds). Applicants must be Fellows of a Royal College of Surgeons or Masters of Surgery.

Salary at the rate of £600 per annum, rising, subject to satisfactory service, by £25 per annum to £700 per annum, and residential emoluments, valued for purposes of superannuation at £150 per annum.

The appointment is subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination by the Council's Medical Officer.

Forms of application and further particulars may be obtained from the Medical Officer of Health, Public Health Department, St. James' Street, Burnley, to whom applications should be returned duly completed and accompanied by copies of three recent testimonials, not later than October 31st.

CANVASSING, EITHER DIRECTLY OR INDIRECTLY WILL BE A DISQUALIFICATION.

Town Hall, Burnley.
COLIN CAMPBELL,
Town Clerk.
October 5th, 1934.

HOUSLOW HOSPITAL, STAINES ROAD, HOUSLOW, MIDDLESEX. (70 Beds.)

Wanted, JUNIOR HOUSE SURGEON. Appointment to recently qualified man of British nationality at £80 p.a., with board, residence, etc., for six months. Applications, stating age, etc., with references, should be sent forthwith (endorsed house surgeon) to the Secretary.

CITY OF CARDIFF. ISOLATION HOSPITAL. APPOINTMENT OF ASSISTANT RESIDENT MEDICAL OFFICER (Male).

Applications are invited from duly qualified Medical Practitioners for the appointment of Assistant Resident Medical Officer at the City Isolation Hospital, Cardiff.

The appointment will be for one year only, and the salary will be £250 per annum (£150 of which will be subject to a temporary reduction of 2½ per cent.), with board, residence, and laundry.

The candidate appointed may be required to undertake general duties in the Public Health Department when necessary. He will not be allowed time off duty to take a course of training for the Diploma in Public Health.

Forms of application may be obtained from the undersigned, by whom applications, accompanied by copies of not more than three recent testimonials, and endorsed "Resident Medical Officer," must be received not later than November 3rd.

City Hall, Cardiff.
J. GREENWOOD WILSON,
Medical Officer of Health.
October 13th, 1934.

COUNTY BOROUGH OF SOUTHAMPTON, EAR, NOSE, AND THROAT SURGEON (PART-TIME).

The Corporation invite applications from practitioners having special experience of diseases of the Ear, Nose, and Throat for the part-time appointment of Ear, Nose, and Throat Surgeon.

The gentleman appointed will work under the administrative control of the Medical Officer of Health, and will be required to conduct two clinics and one operating session weekly, and to act as Consultant and to carry out operations when required for cases within his speciality occurring in the Municipal Hospitals and Institutions.

The salary will be £300 per annum inclusive, and the gentleman appointed will hold the office during the pleasure of the Council.

Form of application and further particulars may be obtained from the Medical Officer of Health, Civic Centre, Southampton, and must be returned to the Town Clerk, Civic Centre, Southampton, endorsed "Ear, Nose, and Throat Surgeon," not later than October 30th.

Civic Centre, R. RONALD H. MEGGESON,
Southampton. Town Clerk.
October 2nd, 1934.

CITY OF BIRMINGHAM. SEELY OAK HOSPITAL. (520 Beds.) CASUALTY OFFICER (Male).

Applications are invited from fully qualified Medical Practitioners for whole-time appointment as Casualty Officer (male) at the Seely Oak Hospital, Birmingham. The appointment will be for a period of six months in the first instance, but may be extended at the end of that time for a further period of not exceeding six months.

Salary at the rate of £200 per annum, and full residential emoluments.

The officer appointed will be required to refund to the Council all fees, allowances, and emoluments (other than the foregoing) received by him.

Further particulars may be obtained from the Medical Superintendent at Seely Oak Hospital, to whom applications, stating age, experience, and qualifications, with copies of recent testimonials, should be forwarded not later than Wednesday, October 31st.

F. H. C. WILTSHIRE,
The Council House, Birmingham. Town Clerk.
October, 1934.

WARWICKSHIRE AND COVENTRY JOINT COMMITTEE FOR TUBERCULOSIS. KING EDWARD VII MEMORIAL SANATORIUM, HERTFORD HILL, NEAR WARWICK.

Applications are invited for the post of SENIOR ASSISTANT MEDICAL OFFICER (male) at the Memorial Sanatorium, near Warwick, of 195 beds.

The successful candidate will be appointed for six months, and will have special opportunity of gaining experience in treatment by artificial pneumothorax, by ultra-violet light, and in X-ray work.

The salary will be at the rate of £275 per annum, plus board, lodging, and laundry.

Applications, with recent testimonials, should be forwarded direct to the Medical Superintendent at the Sanatorium by not later than Thursday, November 1st.

Shire Hall, L. EDGAR STEPHENS,
Warwick. Clerk of the Joint Committee.
October 15th, 1934.

APPOINTMENTS.—Important Notice.

Medical practitioners are requested **not to apply** for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	CONTRACT PRACTICE (contd.)	PUBLIC HEALTH (contd.)
INVICTA MEDICAL AID SOCIETY, ROCHESTER. (Medical Officer.)	MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	COUNTY BOROUGH OF OLDHAM. (Resident Assistant Medical Officer, Boundary Park Hospital.)
EBBW VALE, MON. (Workmen's Medical Society.)	NEATH AND DISTRICT. (Medical Aid Association.)	CITY OF STOKE-ON-TRENT EDUCATION COMMITTEE. (Assistant School Medical Officer.)
GILFACH GOCH, GLAMORGAN. (Workmen's Medical Scheme.)	OAKDALE, MON. (Medical Officer for Medical Aid Association.)	COUNTY BOROUGH OF TYNEMOUTH. (Assistant Medical Officer of Health—Male.)
LLANELLY AND DISTRICT WORKMEN'S MEDICAL COMMITTEE. (All Medical Appointments.)	OGMORE VALLEY, GLAMORGAN. (Wynndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)	PUBLIC ASSISTANCE
LLWYNPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. (Workmen's Medical Scheme.)	PUBLIC HEALTH	COUNTY BOROUGH OF BARROW-IN- FURNESS. (District Medical Officer.)
LOWESTOFT MEDICAL INSTITUTE. (Medical Officer.)	CORNWALL COUNTY COUNCIL. (Medical Superintendent—Tehidy Sanatorium, Cornwall.)	
	COUNTY COUNCIL OF KINCARDINE. (Deputy Medical Officer of Health.)	

(b) Overseas.

Medical practitioners are requested **not to apply** for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. (All Friendly Society Appoint- ments.)	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Mac- quarie St., Sydney, N.S.W.	QUEENSLAND. (Brisbane Asso- ciate Friendly Societies' Insti- tute.)	The Hon. Sec., Queens- land Branch, British Medical Association, B.M.A. Building, Ade- laide St., Brisbane.	WELLINGTON, NEW ZEALAND (Contract Practice Appointments.)	Dr. G. F. V. ANSON, (Hon. Sec., New Zea- land Branch), British Medical Association, P.O. Box 156, Wellin- ton, New Zealand.
VICTORIA: (All Institute or Medical Dispen- saries.)	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medi- cal Association, Medi- cal Society Hall, East Melbourne, Victoria.			WESTERN AUSTRALIA (Contract and Lodge Practices.)	Hon. Sec., Western Australian Branch, British Medical Assoc- iation, "Shell House," 205, St. George's Ter- race, Perth, Western Australia.

October 17th, 1934.

By Order of the Council.

G. C. ANDERSON, Medical Secretary.

CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL (220 Surgical and Medical Beds.)

RESIDENT SURGICAL OFFICER.

* Applications are invited from fully qualified men for the above post. Candidates must have held previous resident appointments, preferably with Special Surgical experience.

The appointment is for twelve months. Salary at the rate of £300 per annum, with board, apartments, and laundry.

Applications, stating age, with copies of three recent testimonials, should be sent to the undersigned on or before Thursday, October 25th.

G. SUNNUCK,
Supt. & Secretary.

KING EDWARD MEMORIAL HOSPITAL, EALING. (130 Beds.)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (Male), vacant on November 1st. Six months' appointment. Salary £250 per annum, with usual residential allowances. Applications, stating age, experience, and qualifications, together with copies of two recent testimonials, to be sent to the undersigned as soon as possible.

R. A. MICKELVRIGHT,
Secretary-Superintendent.

CHESHIRE JOINT SANATORIUM, MARKET DRAYTON.

THIRD ASSISTANT MEDICAL OFFICER (Male) required. The appointment will be for a period of one year only. Salary £250 per annum, with the usual residential allowances. Please apply to the Medical Superintendent for application forms.

HOSPITAL OF ST. JOHN & ST. ELIZABETH, 60, Grove End Road, N.W.3.

Applications are invited for the post of ANAESTHETIST. The successful candidate will be required to attend for Dental work at 9 a.m. on Tuesdays, and for general surgical work on Friday afternoons at 2 p.m.

Applicants are required to call on all members of the Medical Committee, a list of the members of which will be supplied on application to the Secretary.

Applications, with copies of three testimonials, must reach the undersigned on or before Monday, October 29th.

F. DUDLEY HOBBS, B.A., Secretary.

ROYAL NORTHERN HOSPITAL, Holloway, N.7.

Applications are invited for the following post:

OPHTHALMIC SURGEON (Second).

Candidates must be Fellows of the Royal College of Surgeons of England. Particulars of the office and details with regard to the submission of testimonials, etc., may be obtained from the undersigned, to whom applications should be sent not later than October 27th.

GILBERT G. PANTER, Secretary.

THE ROYAL DENTAL HOSPITAL OF LONDON, 32, Leicester Square, W.C.2.

TWO PART-TIME HOUSE ANAESTHETISTS required for In-patient and Out-patient duties at this Institution on January 1st, 1935. The posts are non-resident. Honorarium 10/6 per session. Candidates are requested to send in forty copies of applications and testimonials on or before October 23rd, to the Secretary-Supt., from whom further particulars may be obtained.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

Applications are invited for the following vacant appointments:

HONORARY ASSISTANT PHYSICIAN. Candidates must hold the M.D. degree, and be members of the Royal College of Physicians of London.

HONORARY DERMATOLOGIST. Candidates must possess special qualifications for the post, to which work the duties will be entirely confined.

HONORARY MEDICAL PSYCHOLOGIST.

Applications and testimonials to be sent addressed to the Chairman of the Honorary Medical Officers Election Committee not later than Saturday, October 27th.

Extract Rule 17.—Any candidates shall be disqualified who advertise in the public papers, or personally canvasses the members of the Election Committee; but candidates are to be at liberty to send to the members copies of their applications and accompanying documents, as delivered to the Chairman of the Committee.

FRANK SOLMAN, Supt. & Secretary.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.

The Managing Committee invite applications from qualified medical women for the following staff appointment:

ASSISTANT SURGEON TO THROAT, NOSE, & EAR DEPARTMENT.

Applicants must be Fellows of the Royal College of Surgeons. Applications, with twelve copies of three testimonials, to be sent to the undersigned by October 26th.

JEAN R. MURRAY, Secretary.

(Appointments continued on p. 54)

BRITISH MEDICAL JOURNAL

B.M.A. HOUSE, TAVISTOCK SQUARE,
LONDON, W.C.1

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NOT CLASSIFIED.

WANTED. — SECOND-HAND RADIUM NO longer required by Hospitals or Doctors. —Address, stating full particulars, No. 6262, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — WOMAN DOCTOR, RETIRED OR holding appointment, offered furnished rooms and light, Central London, in return for occasional NIGHT WORK. No midwifery. —Address, No. 6287, B.M.A. House, Tavistock Square, W.C.1.

"A SIMPLE METHOD OF BOOK-KEEPING FOR THE G.P." explains and illustrates the easiest and quickest method of keeping books known to the profession. Price 5/- — Dr. ROWTHORN, Brocco Bank, Sheffield.

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YOUNG MARRIED WOMAN, MODERATE means, convalescing tuberculosis, no activity last 8 months, wishes BOARD Doctor's house. South-West England. Object, improving physical strength. — Write, GRACE DAVIS, The Mount, Uttoxeter.

ASSISTANCIES.

WANTED. — AN INDOOR ASSISTANT IN A South Wales Colliery Practice. Usual bond. Salary £350 per annum. —Address, stating age, references, etc., No. 6280, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — AN INDOOR ASSISTANT, MALE or female, from November to end of April for a private and panel Practice in Glamorganshire. British nationality. Newly qualified preferred. State age, references, etc. — No. 6264, B.M.A. House, Tavistock Sq., W.C.1.

WANTED. — ASSISTANT FOR COUNTRY Town Practice in Kent, about beginning of December. Young, unmarried, keen man. Ex H.P., H.S., or aptitude for surgery desirable. English or Scotch. Wide experience available. Hospital. Possible partnership later. £350, outdoor. Car. provided. —Address, No. 6277, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — ASSISTANT, MALE, FOR Practice, near Manchester. English or Scotch, with experience and own car. Usual bond. Furnished house provided. Commencing salary £400 p.a. Full particulars and photo. — No. 6268, B.M.A. House, Tavistock Sq., W.C.1.

WANTED. — ASSISTANT, MALE, SINGLE, for Practice in Cathedral City. Commencing salary £400, car provided. Give essential particulars and copies testimonials. —Address, No. 6178, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — ASSISTANT, MARRIED, AGED 30-35. Experience G.P. and panel. Salary £400 and unfurnished house. References essential. Photo. Car kept. —Address, No. 6276, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — ASSISTANT, OUTDOOR, MALE, single, for Country Town Practice in N. of England. Suit one fond of the country and seeking experience in a pleasant country district. Give full particulars. Usual bond. —Add., No. 6275, B.M.A. House, Tavistock Sq., W.C.1.

WANTED, ASSISTANTSHIP IN LEICESTER, Nottingham, or Midlands, by Woman Doctor, aged 26; qualified conjoint; 2 years' hospital and general practice experience; keen on midwifery, minor surgery, anaesthetics. Can drive car. Accustomed sole charge. Good references. —Address, No. 6272, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — ASSISTANT, MALE, SCOTTISH, for mixed London N.W. Practice. Full particulars. —Address, No. 6371, B.M.A. House, Tavistock Square, W.C.1.

WANTED. — ASSISTANTSHIP, WITH VIEW, by Scotch graduate, aet. 29. Four years' experience G.P.; ex R.C.O. and H.S. Experienced major surgery. —Address, No. 6377, B.M.A. House, Tavistock Square, W.C.1.

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APPOINTMENTS.—Contd.**THE SUSSEX MATERNITY AND WOMEN'S**
HOSPITAL, BRIGHTON. (Founded 1830.)

The Committee of the above Hospital give
notice that at a Meeting to be held at the
Hospital, 80, Buckingham Road, Brighton, on
Friday, November 9th, at 11.30 a.m., they will
elect a SECOND HONORARY OBSTETRIC
PHYSICIAN to the Institution.

Candidates must be duly registered under the
Medical Acts.

Their application with copies of testimonials,
must be sent to the Secretary, 80, Buckingham
Road, Brighton, on or before Saturday, Novem-
ber 3rd.

During their term of office they will be pre-
cluded from holding any appointment to another
Medical Charity, unless such appointment has
been sanctioned by the Committee.

Any candidate canvassing any Member of the
Committee of Management, either personally or
through an Agent will be disqualified from hold-
ing the office.

Board Room, PERCY F. SPOONER,
80, Buckingham Road, Secretary.
Brighton. October 16th, 1934.

ROYAL ALEXANDRA HOSPITAL FOR SICK
CHILDREN, Dyke Road, BRIGHTON.

The Election Committee will meet on Friday,
November 2nd, and it is hereby convened for
that date at 5.15 p.m. for the purpose of elect-
ing an HONORARY ORTHOPAEDIC SURGEON.

All candidates are required to transmit their
applications, with their qualifications and testi-
monials, under cover to the undersigned not
later than Friday, October 26th, and must hold
themselves in readiness to attend the Meeting
of the Committee on the day of Election.

The Committee does not bind itself to appoint
any candidate. By the rules of the Hospital
"Any candidate, personally or through an
agent, canvassing Members of the Election Com-
mittee shall be disqualified, *ipso facto*, from
holding the office for which he is candidate;
but every candidate shall have an opportunity
of appearing before the Election Committee, and
may send a copy of his testimonials to the
Members of the Committee of Election not more
than three days before the Meeting at which
such election is to take place."

Further information can be obtained if desired
by application to the Secretary, PERCY F.
SPOONER, at the Hospital.

October 15th, 1934.

CHORLEY AND DISTRICT HOSPITAL,
CHORLEY, LANCs.

HOUSE SURGEON (Registered) required.
Salary £150 per annum, with board, residence,
and laundry. Appointment must be held for
at least six months. Duties include those of
Casualty Officer. Hospital has 66 beds, and
has been open one year.

Applications, stating age and accompanied by
three recent testimonials, should be sent to the
Hon. Secretary to arrive not later than
October 24th.

STROUD GENERAL HOSPITAL,
STROUD, GLOS.

RESIDENT MEDICAL OFFICER (Male or
Female) required at once. Candidates must be
fully qualified and registered. Six months' ap-
pointment. Salary £150 per annum, with
board and laundry. Applications, stating
nationality, with copies of testimonials, to be
sent to the undersigned (from whom further
information may be obtained).

C. FORD SPENCER, Secretary.

VICTORIA CENTRAL HOSPITAL,
WALLASEY.

HONORARY ASSISTANT SURGEON. Appli-
cations are invited for this post, particulars of
which may be obtained from the Secretary.
Applications must be sent in by letter, not later
than November 3rd.

ARTHUR J. AUST, Hon. Secretary.

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YORKSHIRE.—Established mixed-class PRACTICE. Cash receipts over £1,700. Panel over 1,000. Excellent house, 2 reception, 4 bedrooms, garage, and large garden. Premium 1½ years' purchase.—No. 615.

MANCHESTER.—PARTNERSHIP in old-established middle and better working-class Practice in pleasant suburb. Average cash receipts over £2,500 p.a. Panel 2,000. Good house, 2 reception, 4 bedrooms, garage, and garden. Rent, £60 p.a. English or Scotch graduate preferred. Premium one-third share—2 years' purchase.—No. 616.

MEDICAL WOMAN'S NUCLEUS in Cheshire town, near Liverpool, offering considerable scope for expansion. Good modern house, 2 reception, 4 bedrooms, garage, and garden, to rent on lease, or would sell for reasonable offer.—No. 515.

LEICESTERSHIRE.—PARTNERSHIP, with view to succession, in old-established unopposed Country Practice. Cash receipts last year £828. Panel 800. Scope. All kinds of sport. Premium—half share—1½ years' purchase.—No. 596.

MANCHESTER.—Old-established working-class PRACTICE. Cash receipts approx. £800 p.a. Panel and appointments £500 p.a. Scope. Good house, 2 reception, 3 bedrooms; garage. Rent £50 p.a. on lease. Good introduction. Vendor retiring. Prem., best offer.—No. 546.

MEDICAL WOMAN'S PRACTICE in Large Seaport Town on the East Coast. Cash receipts last year £500. Panel 100. Scope. Good house, 2 reception, 3 bedrooms, professional rooms, and small garden. Premium—Practice—£600.—No. 563.

NORTH-EAST COAST.—Very old-established middle and working-class PRACTICE. Cash receipts last year £1,388. Panel nearly 1,500. Scope. Good corner house, 2 reception, 5 bedrooms; garage and small garden. Rent £60 p.a. Premium, best offer.—No. 595.

LANCS TOWN, nr. Manchester.—Excellent mixed-class PRACTICE. Cash receipts last year approx. £1,840. Panel 1,600. Scope. Good house, 2 reception, 4 bedrooms; garage and small garden. Premium 1½ years' purchase.—No. 574.

CUMBERLAND.—Old-established unopposed mixed PRACTICE in country district. Cash receipts over £400 p.a. Panel 300. Great scope for energetic man. Good house, 2 reception, 5 bedrooms; garage and garden. Rent £30 p.a. Vendor retiring. Premium, best offer.—No. 592.

LIVERPOOL.—Old-established PRACTICE. Cash receipts £500 p.a. Panel 400. Scope. Good house, 2 reception, 5 bedrooms. Small garden. Rent £60 p.a. Premium £650.—No. 599.

CO. DURHAM.—Old-established mixed PRACTICE. Average cash receipts £1,264 p.a. Panel 767. Excellent house in prominent position, 2 reception, 6 bedrooms, garage. Premium—Practice—1½ years' purchase.—No. 581.

NEWCASTLE-ON-TYNE.—PARTNERSHIP in old-established panel and private Practice. Cash receipts over £2,000 p.a. Panel over 2,000. Scope for increase. Incoming Partner may choose own residence. Premium—half share—2 years' purchase.—No. 602.

YORKSHIRE (N.R.).—PARTNERSHIP in Panel and Club Practice in large town. Income, including £845 p.a. from appointments, £2,100 p.a. Panel 2,500. Scope for private practice. Purchaser can choose own residence. Premium—one-third share—best offer.—No. 612.

MANCHESTER.—Old-established mixed-class PRACTICE, averaging over £837 p.a. Panel over 1,000. Scope. Good house, 4 bedrooms; garage and small garden, for sale or may be rented. Premium 1½ years' purchase.—No. 589.

DEATH VACANCY.—Yorkshire (W.R.).—Old-established mixed panel and private PRACTICE. Cash receipts last year over £1,000 p.a., including £426 from panel. Good freehold house, with garage, etc. Premium—Practice, house, and valuable book debts—£2,000.—No. 610.

NORTH-WEST COAST.—RADIOLOGICAL PRACTICE. Cash receipts last year £809, including approx. £350 from appointments. Purchaser can choose own residence. Premium £1,275; part by instalments.—No. 588.

SOUTH YORKSHIRE.—Old-established mixed-class PRACTICE in pretty Country District. Average cash receipts £1,000 p.a. Panel 850. Scope. Good modern house, 2 reception, 4 bedrooms; garage and garden to rent on lease. Premium 1½ years' purchase.—No. 590.

MIDLANDS.—Small PRACTICE in prosperous town. Cash receipts last year £616. Panel about 700. Good detached house, 2 reception, 7 bedrooms. Garage and garden. Prem., best offer.—No. 611.

NORTHERN CITY.—VENEREAL DISEASES PRACTICE. Cash receipts last year £1,747. Fees 10/6 to £3 3s. House to rent at £65 p.a. Premium 1½ years' purchase.—No. 594.

CO. DURHAM.—Old-established unopposed country PRACTICE. Cash receipts last year £877. Panel 573. Good house (with modern conveniences), 2 reception, 4 bedrooms; garage and large garden. Net rent £20 p.a. Vendor retiring. Premium 1½ years' purchase.—No. 593.

CONSULTING OPHTHALMIC PRACTICE in large City near North Wales Coast. Cash receipts last year £650. Appointment £50 p.a. Premium £500.—No. 607.

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2 FLOURISHING CITY WITHIN 80 MILES OF LONDON.—WELL-established and increasing PRACTICE averaging £2,878 p.a. Panel 2,200. Visits 5/- to £1 1s. (average 7/6). Detached house (5 bedrooms) in one of the nicest parts with excellent surgery accommodation for sale or rent. Good Hospital and opportunities for surgery. Great scope for increase. Premium £5,756.

3 KENT.—WELL-ESTABLISHED PRACTICE ABOUT £1,100 P.A. in rapidly growing district about 12 miles from London. Panel over 1,300. Convenient house (4 bedrooms, etc.), nice garden and very large garage for sale or rent. Excellent scope as large amount of building going on all round. Premium £2,500.

4 HOME COUNTIES. — PARTNERSHIP IN VERY OLD-ESTABLISHED and sound Practice of nearly £4,000 p.a. in pleasantly situated Market Town within 30 miles of London. Panel 1,880. Visiting fees 3/6 to £1 11s. 6d. House, containing 7 bedrooms, with garage and garden, to rent on lease. Incoming Partner must be married and aged 34-42 years. Premium one-half share £4,050.

5 S. COAST.—OLD-ESTABLISHED COMPACT NON-DISPENSING PRACTICE averaging £1,450 p.a. in Residential Town in Health Resort. No appointments or panel. Visiting fees 5/- to 10/6. House (7 bedrooms) in residential road for sale. Scope. Premium two years' purchase.

6 N. LONDON.—WELL-ESTABLISHED PRACTICE AVERAGING £1,680 p.a. in thickly-populated District. Panel 1,280. Double-fronted house (6 bed and dressing rooms), with good garden and garage, price £4,000. Separate surgery (part sub-let) for sale at £1,000. Scope for increase. Premium £3,500.

7 S. MIDLANDS.—PARTNERSHIP IN OLD-ESTABLISHED PRACTICE averaging £2,650 p.a. in Country District within an hour of London. Visits 3/6 to 10/6; a few higher. Detached house (6 bedrooms) to rent on lease. Premium one-third share 2 years' purchase.

8 MIDDLESEX.—A JUNIOR PARTNER REQUIRED IN FIRM practising in a Residential District. Suitable house available to rent. Share of about £1,000 p.a. will be sold at once at 2 years' purchase with option to increase share in three years.

9 CORNWALL.—PARTNERSHIP IN OLD-ESTABLISHED PRACTICE averaging nearly £5,600 p.a. in Market Town. Suitable house (4 bedrooms, etc.), with garage and garden for sale or rent. Hospital. Share worth about £870 p.a. will be sold at 2 years' purchase.

10 KENSINGTON, S.W. — A VERY OLD-ESTABLISHED NON-dispensing PRACTICE about £900 p.a. (50 per cent. Ophthalmic work). Fees 7/6 to 10/6. Ophthalmic 10/6, £1 1s.; and £2 2s. House with nice garden to rent. Premium £1,600.

11 LONDON, S.E.—MIXED PRACTICE ABOUT £600 P.A. IN Suburban District. Panel about 300. Nine-roomed house to rent on lease. Premium, to effect quick sale, £600.

12 INDIA. — LARGE WELL-ESTABLISHED AND RAPIDLY INCREASING OPHTHALMIC PRACTICE in Delhi. There is unlimited scope for suitably qualified Medical Man or Woman. Climate excellent. Moderate premium for quick sale.

13 DEATH VACANCY: LONDON, N.W. — OLD-ESTABLISHED PRACTICE averaging about £820 p.a., including panel of about 600. Waiting and consulting rooms are available.

14 S.E. COAST.—OLD-ESTABLISHED PRACTICE AVERAGING £685 p.a. in growing Watering Place. Panel 220. Visiting fees 5/-. Corner house on main road (5 bed and dressing rooms) with garage for sale or rent. Ample scope for young energetic man. Premium 1½ years' purchase.

15 N. OF ENGLAND.—OPHTHALMIC PRACTICE IN IMPORTANT Town. Cash receipts 1933 £638 increasing. One appointment. Fees mostly £2 2s. Moderate premium for quick sale.

16 S. COAST.—SMALL PRACTICE IN RAPIDLY GROWING SEASIDE Town. Receipts 18 months to April 30th last, £355. Panel just over 100. House (4 bedrooms) standing in grounds about half an acre, for sale. Scope for increase as building is proceeding rapidly. Premium 1½ years' purchase.

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17 LONDON, S.W.—WELL-ESTABLISHED AND VERY COMPACT PRACTICE averaging about £1,050 p.a. in pleasant Suburb. Panel about 1,200. House (3 bedrooms) with garage and garden. There is also another house, both for sale or rent. Considerable scope for increase. Premium £2,000.

18 N. DEVON.—SMALL PRACTICE DOING ABOUT £400 P.A. IN delightful Country District on Coast. Nice house (5 bedrooms) standing in about acre of ground with garage. Locality rapidly growing and offering great scope. Premium for house and Practice £1,750.

19 NEW ZEALAND.—WELL-ESTABLISHED PRACTICE IN SMALL Seaside Town in South Island. Vendor's Bookings for just under seven months, £700. Small Hospital. House contains 9 rooms, waiting room, etc. Large garden, stable, etc. To rent. Premium £1,400.

20 S.W. OF ENGLAND.—GOOD MIDDLE-CLASS NON-DISPENSING PRACTICE in Seaside Resort. Cash receipts average nearly £750 p.a. No panel, but scope in this direction. Visits 3/6 to 14/6. Nice house (7 bed and dressing rooms) with electric light and hot water system for sale. Sport of all kinds. Plenty of good society and educational facilities. Hospital. Premium one and a half years' purchase.

21 CAPE PROVINCE.—WELL-ESTABLISHED PRACTICE IN small Town in one of the foremost Farming Districts (altitude over 5,300 ft.). Cash receipts year ending June 30, 1934, £1,100, including appointment worth £200. Visiting fees 7/6 in town by day, £1 1s. by night. Country at the rate of 4/- by day, 6/- by night. House contains spacious lounge, 2 bedrooms, bath-room, surgery, etc. Garden and good garage. Price about £1,475. Reasonable premium.

22 LONDON, E.5.—WELL-ESTABLISHED PRACTICE £420 P.A. Panel 150. Visits 3/6, 5/- (night 10/6). Shop-fronted surgery and flat to let. Premium £350.

23 BIRMINGHAM.—OLD-ESTABLISHED PRACTICE AVERAGING £650 p.a. in suburban district. Panel about 800. Visits 2/6 to 7/6, medicine not included. Substantially built house (7 bed and dressing rooms) occupying prominent corner position with garage and small garden for sale. Considerable scope as district is growing. Premium £1,500.

24 LONDON, W.—PARTNERSHIP IN WELL-ESTABLISHED PRACTICE between £1,100—£1,200 p.a. in residential area easy reach of West End. Incoming Partner should be aged 30-33. Great scope for panel work. One-half share (£500 p.a. guaranteed) would be sold for £1,000.

25 SURREY.—INCREASING PRACTICE IN DEVELOPING RESIDENTIAL District. Income about £530 p.a., including small panel returning £80 p.a. Visits 5/- to 7/6. Very good freehold residence for sale. Great scope for increase. Premium £750.

26 SURREY.—PARTNERSHIP IN SOUND OLD-ESTABLISHED good mixed-class Practice of £2,737 p.a., within 10 miles of London. Several appointments and Panel 325. Visits 5/- upwards. Few 3/6. Very little midwifery. Good corner house (5 bedrooms) with nice garden for sale. Scope for considerable increase. Premium one-half share 2 years' purchase.

27 LONDON, S.E.—WELL-ESTABLISHED PRACTICE IN GROWING residential suburban district. Receipts past twelve months £975. Panel over 560. Visits 4/-, 7/6 and upwards. Excellent detached house (4 bedrooms) with garage and half acre of garden to rent. Scope for increase. Premium £1,700 or near offer.

28 S.W. OF ENGLAND.—PRACTICE CARRIED ON BY MEDICAL woman in coast town. Receipts average about £350 p.a. including appointments and small panel. Visiting fees 5/- to 7/-. Suitable house available. Premium £350.

29 COUNTY TOWN ABOUT 130 MILES FROM LONDON.—VERY old-established middle and upper-class PRACTICE averaging nearly £1,200 p.a. Panel 120. Visiting fees 7/6 to 15/6. Ten-roomed house in good residential part with garage and garden for sale. Scope. Premium £1,750.

30 S.W. OF ENGLAND.—NON-DISPENSING PRACTICE OF £1,965 p.a. in beautifully situated and growing Summer Resort. No panel or appointments. Visits and consultations 7/6, 10/6, and £1 1s. Practically no night work. Modern house (6 bedrooms) pleasantly situated in quiet locality, with one acre garden, for sale. Premium 1½ years' purchase.

31 MEDITERRANEAN TOWN.—OLD-ESTABLISHED GOOD-CLASS non-dispensing PRACTICE averaging over £2,000 p.a. Fees chiefly £1 1s. Charming situated Flat for sale. Premium—Practice—one year's purchase.

32 LONDON, S.E.—PRACTICE ABOUT £350 P.A. WITHIN 5 miles of Charing Cross. Panel 320. House contains waiting room, surgery, dispensary, 2 bedrooms, etc., rent £63 p.a. Premium £500, or offer.

33 LONDON, E.—SMALL PRACTICE IN POPULOUS AREA. CASH receipts past year £425. Panel 351. Accommodation comprises 4 rooms, kitchen, bathroom, and is rented on lease. Premium 1½ years' purchase.

34 BOURNEMOUTH.—DETACHED CORNER RESIDENCE BUILT by Medical Man and from which general practice has been carried on. The accommodation comprises 2 reception rooms, waiting and consulting rooms, 4 bedrooms, etc. Garage and garden. The freehold would be sold for £1,750. Active building is going on in the district, and there is a good opening.

35 SURREY AND HAMPSHIRE BORDER.—OLD-ESTABLISHED PRACTICE over £1,200 p.a. in Residential District. Panel 750. Visits 3/6 to 21/-. Good house (about 5 bedrooms), with electric light, gas, and company's water. Garage and very good garden for sale. Excellent golf. Good society. Premium one and a half years' purchase.

36 CORNISH COAST.—SMALL PRACTICE IN DELIGHTFUL SEASIDE town worth about £250. No dispensing or panel. House, 3 bedrooms, electric light, gas, and walled-in garden to rent. Premium £250.

37 ESSEX.—NUCLEUS OF PRACTICE WORTH ABOUT £175 p.a., capable of good increase, in populous district. Panel 257. House (4 bedrooms) in main thoroughfare, with garden, for sale or rent. District rapidly growing. Premium £200, to include drugs and part of Surgery furniture.

38 HOME COUNTY.—PARTNERSHIP IN SOUND OLD-ESTABLISHED, about £6,500 p.a. in beautifully situated first-rate Country Town. House available which might be obtained on lease. Considerable scope for increase. Incoming Partner should be aged about 30, preferably married, and a physician with some knowledge of Pathology. Commencing share of (approximately) £1,170 p.a. would be sold at two years' purchase.

39 HERTS.—SMALL PRACTICE IN GROWING COUNTRY District. Income little over £200 p.a. with small panel. Nice freehold corner house (4 bedrooms), garden back and front, for sale. Very good prospects for energetic man. Premium £330.

40 W. OF ENGLAND.—OLD-ESTABLISHED PRACTICE IN County Town. Receipts average over £1,050 p.a., including appointment and clubs worth about £250 p.a. No panel, but Practice might be considerably increased in this direction. Visiting fees 5/- to 10/6 and £1 1s. Pleasantly situated corner residence (8 bedrooms) with garage and fair-sized garden for sale. Very good educational facilities. Building progressing. Premium two years' purchase.

41 N.W. COAST.—OLD-ESTABLISHED PRACTICE IN RESIDENTIAL Town. Cash receipts average about £655 p.a., including good appointments worth about £250. Well-situated house for sale. Good educational facilities for both boys and girls. Premium £850.

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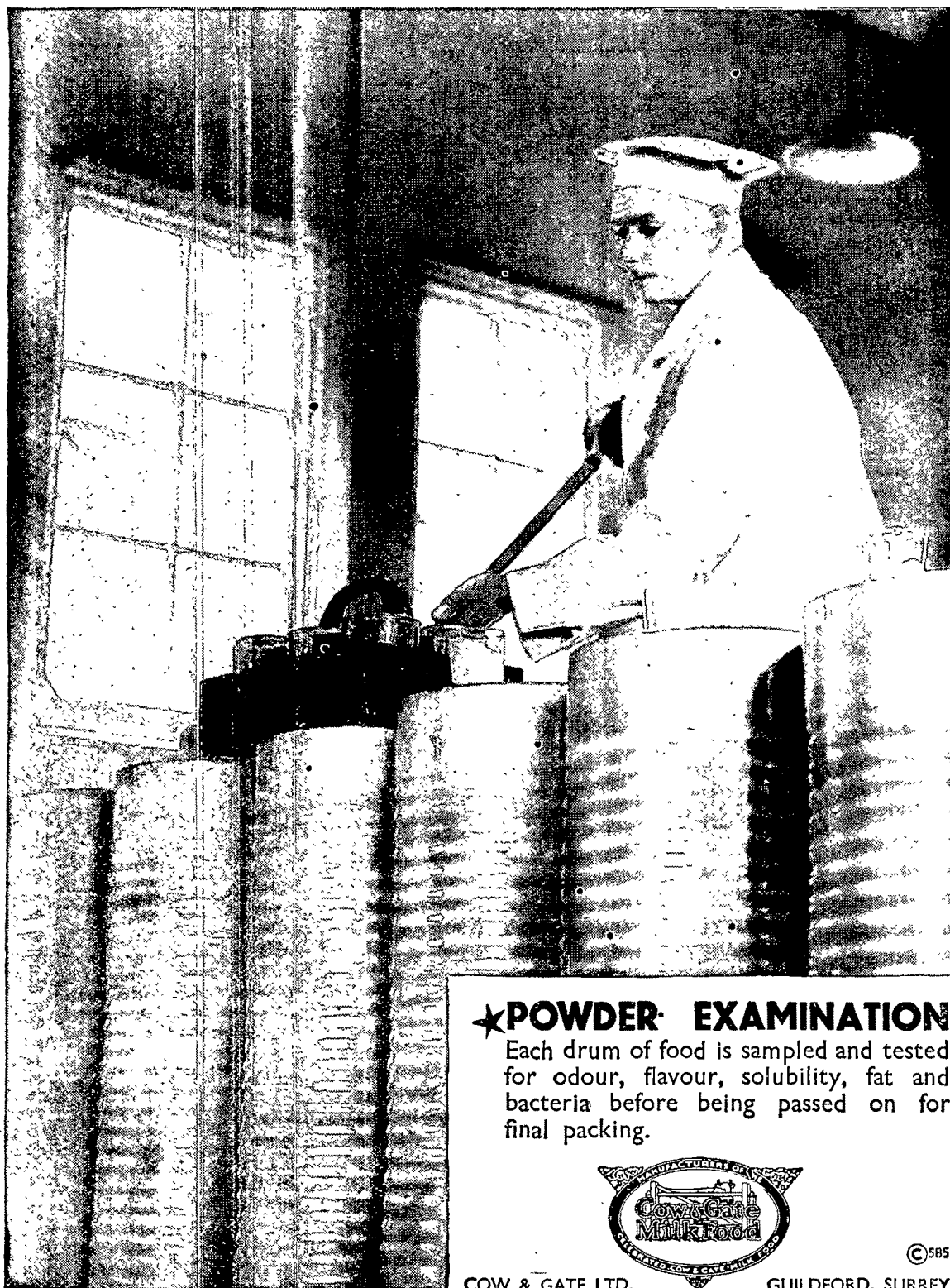
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1. MIDDLESEX.—OUTLYING RESIDENTIAL SUBURB.—Very old-established sound middle and working-class Practice having good scope for increase as district is extending. Gross cash receipts approximately £3,200. Panel of about 1,600. Visits 3/6 upwards. Good house, with ample accommodation on rental. Very suitable for two friends or for working with an Assistant.
2. HOME COUNTIES.—PARTNERSHIP.—A one-half share is offered in a very old-established good mixed-class Practice, producing for the last 12 months approximately £4,000. Panel of 1,950. Appointments worth over £200 p.a. Visits 3/6 to 1½ gns. Very nice house containing 3 reception, 7 bedrooms, etc., consulting room, surgery, and dispensary. Separate entrance. Large garden, with tennis lawn. Electric light. Garage. Can be rented on lease. Sport of all kinds, and very good schools. Premium for share £4,050. Incoming partner must be over 35 years of age, married, and preferably English.
3. OUTLYING EASTERN SUBURB.—Old-established good middle and working-class PRACTICE producing between £1,500 and £1,600 p.a. Panel of 1,400. Suitable accommodation can be rented. Premium 2 years' purchase.
4. SURREY.—RIVERSIDE SUBURB.—Old-established better and middle-class PRACTICE, held by Vendor, who is retiring, for over 30 years. Gross cash receipts approximately £1,125, including panel of 420, and appointments worth about £80 p.a. Fees from 2/6. Suitable house, with 2 reception, 5 bedrooms, etc. Electric light. Garage, etc. Premium £2,000.
5. LONDON, EAST.—Very old-established middle and working-class PRACTICE, producing for last 12 months over £900. Panel of 1,063. Very low expenses. Visits 3/6 upwards. Suitable house can be rented at £100 p.a., part sublet. Premium £1,600.
6. LONDON, NORTH.—Chiefly better-class PRACTICE producing nearly £200 p.a., but offering good scope. Panel of 60. Fees from 5/- to 10/6. Suitable house, with 2 reception, 5 bedrooms, etc. Can be rented at £85 p.a. Premium £150.
7. MIDLANDS.—PROSPEROUS RESIDENTIAL TOWN.—Very old-established middle and better-class PRACTICE, averaging approximately £3,000 p.a., including £1,000 from panel. Fees 2/6 to 10/6. Scope for increase as the town is extending and many new houses are being built. Very nice house, with 2 reception, 5 bedrooms, etc. Separate surgery accommodation. Electric light. Garage. Price for freehold £1,650. Premium 2 years' purchase.
8. ESSEX.—COAST TOWN.—PARTNERSHIP.—A one-third share (with increase later) is offered in a rapidly increasing Practice producing nearly £1,500 p.a., with ample scope for development. Panel of 900. Appointments worth about £70 p.a. Visits 5/- upwards. Suitable house can be obtained. Premium for share 2 years' purchase.
9. LANCs.—LARGE TOWN.—OPHTHALMIC AND X-RAY PRACTICE, with good scope for general work if desired. Held by Vendor (who is retiring) for past 30 years. Gross cash receipts for last 12 months over £800. Hospital appointment worth £150 p.a., plus extras. Suitable house can be obtained. Premium £1,275.
10. LONDON, W.—Better middle and working-class PRACTICE, offering good scope for increase. Gross cash receipts approximately £750 p.a. Fees 5/- to 21/-. Suitable flat can be rented. Premium £800.
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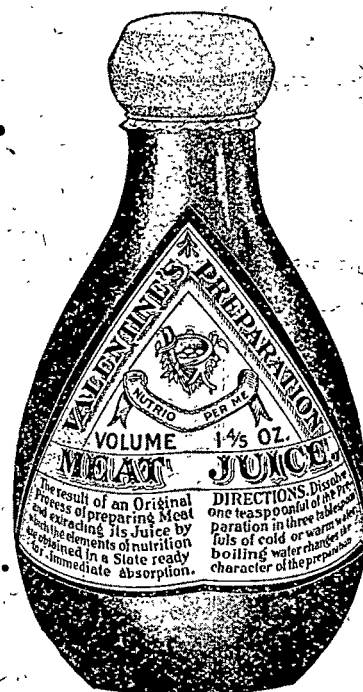
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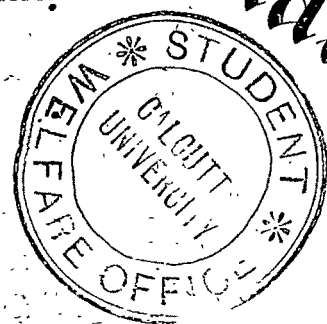
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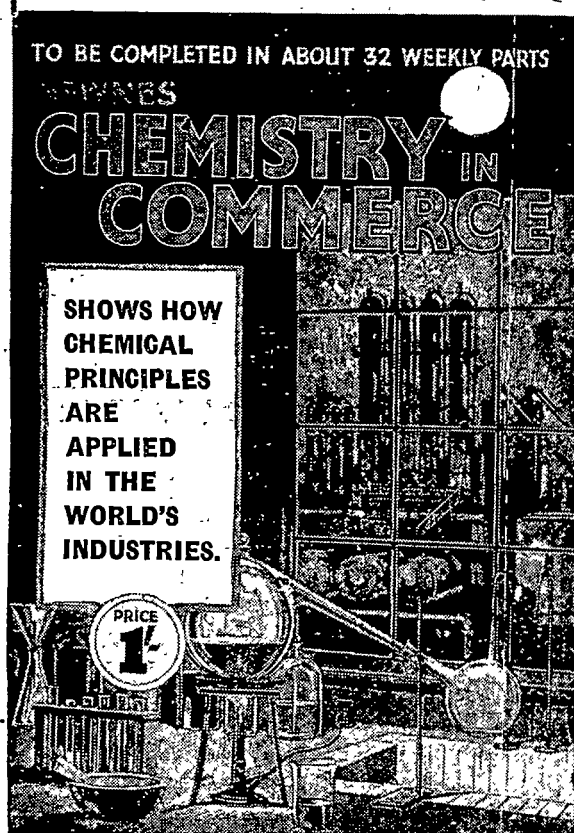
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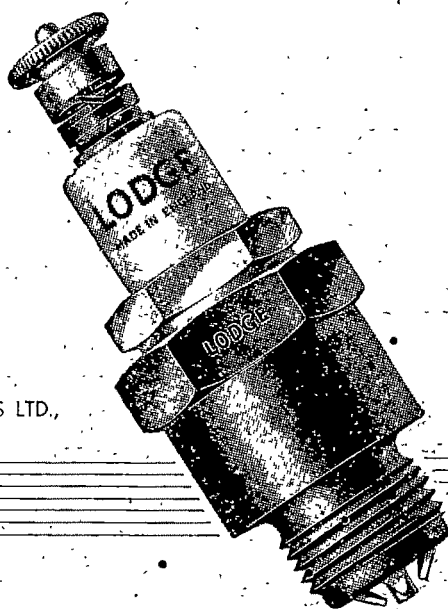
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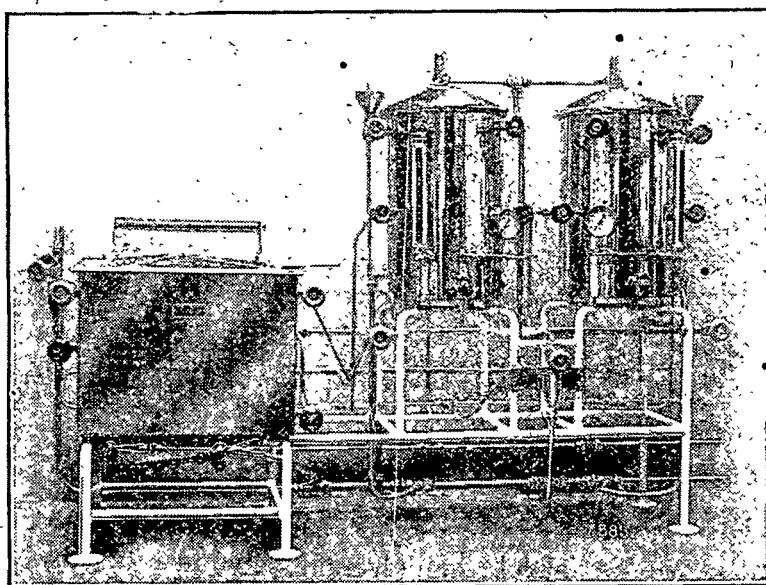
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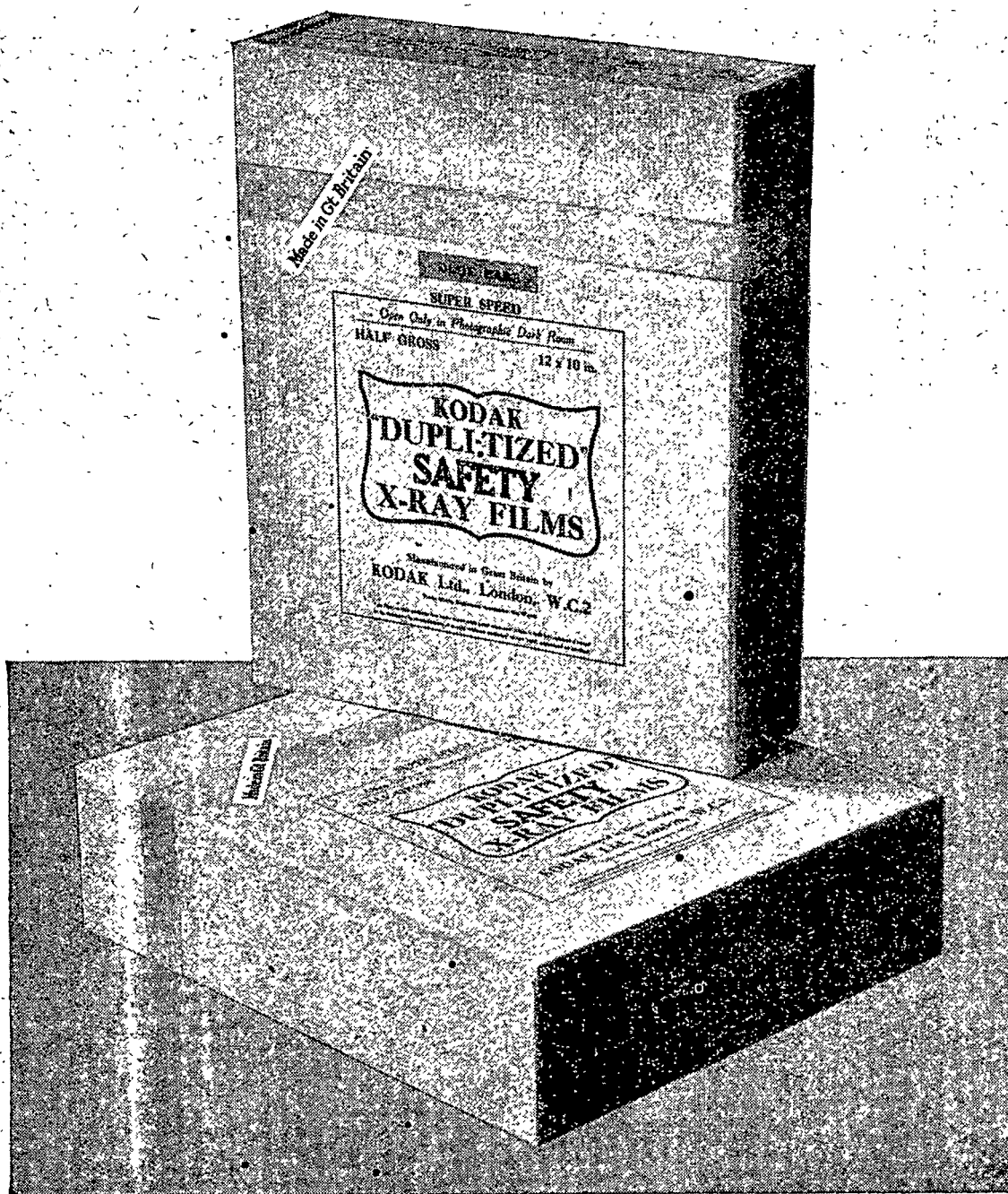


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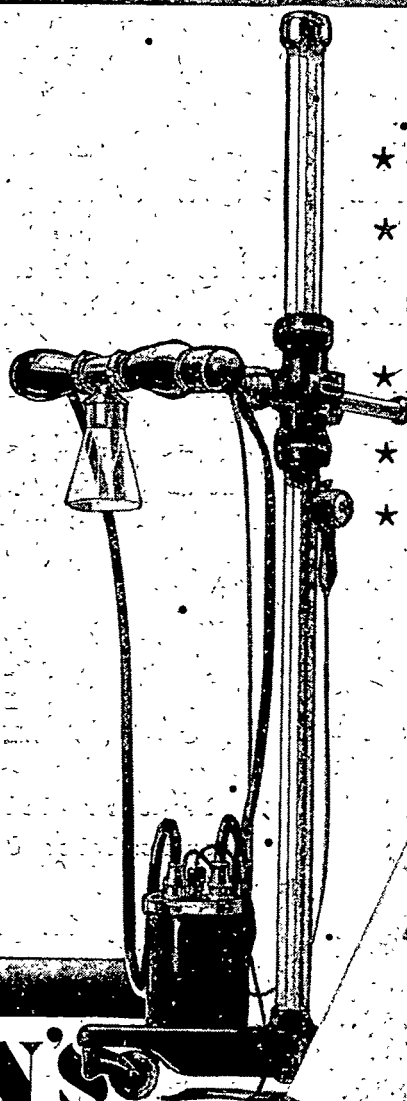
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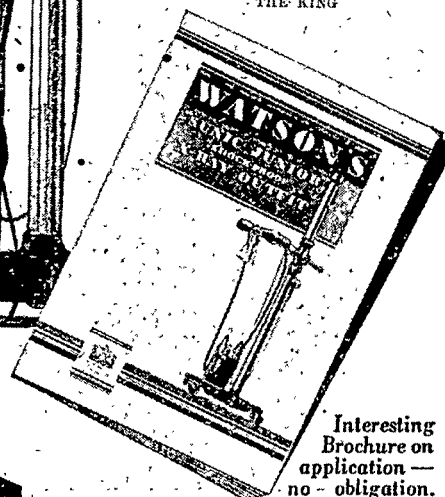
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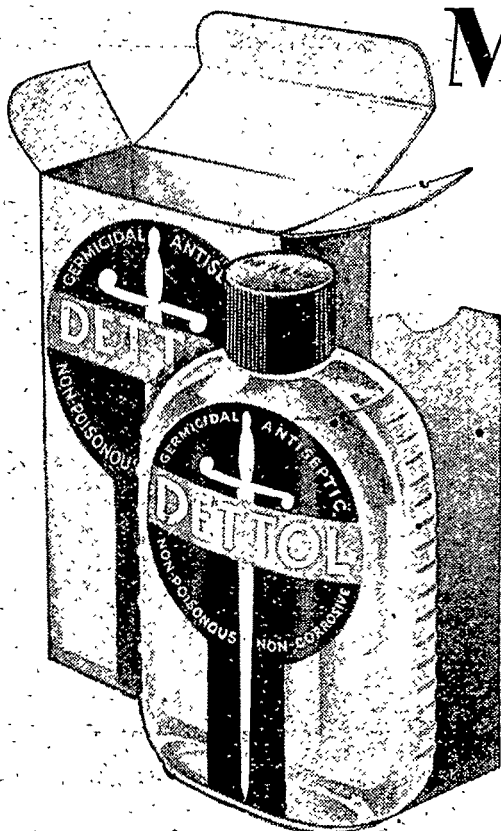
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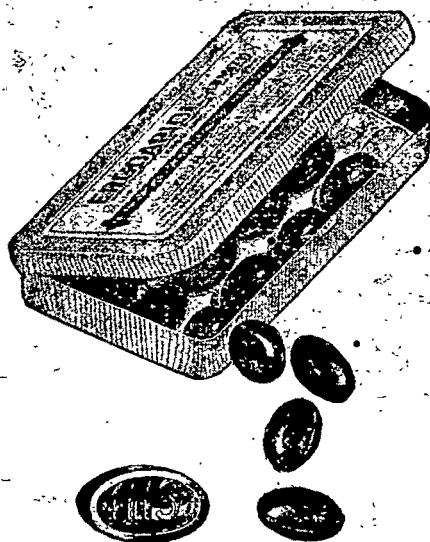
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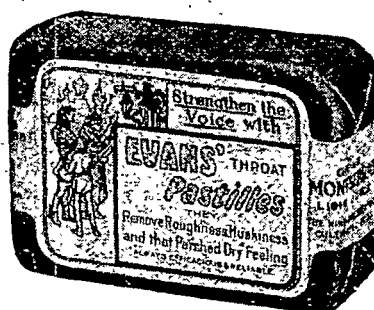
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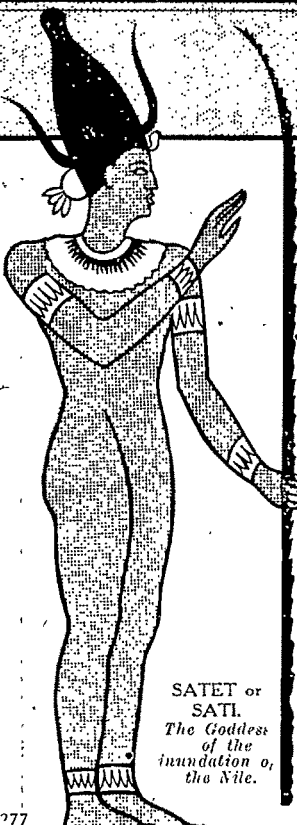
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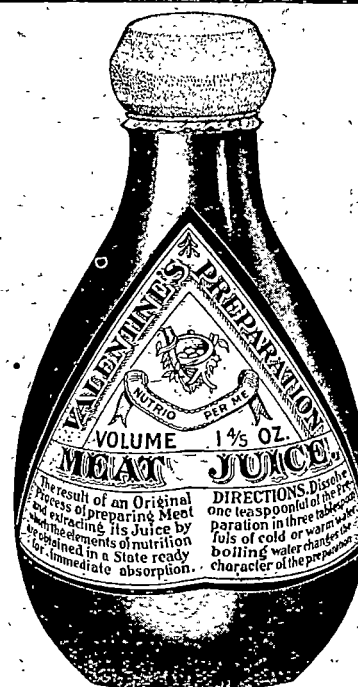
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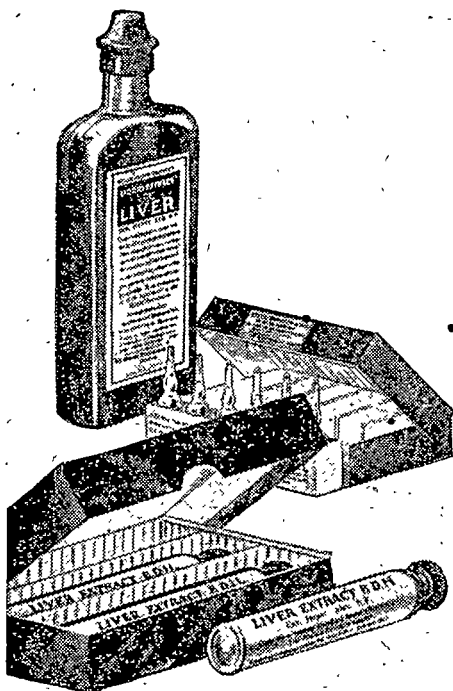
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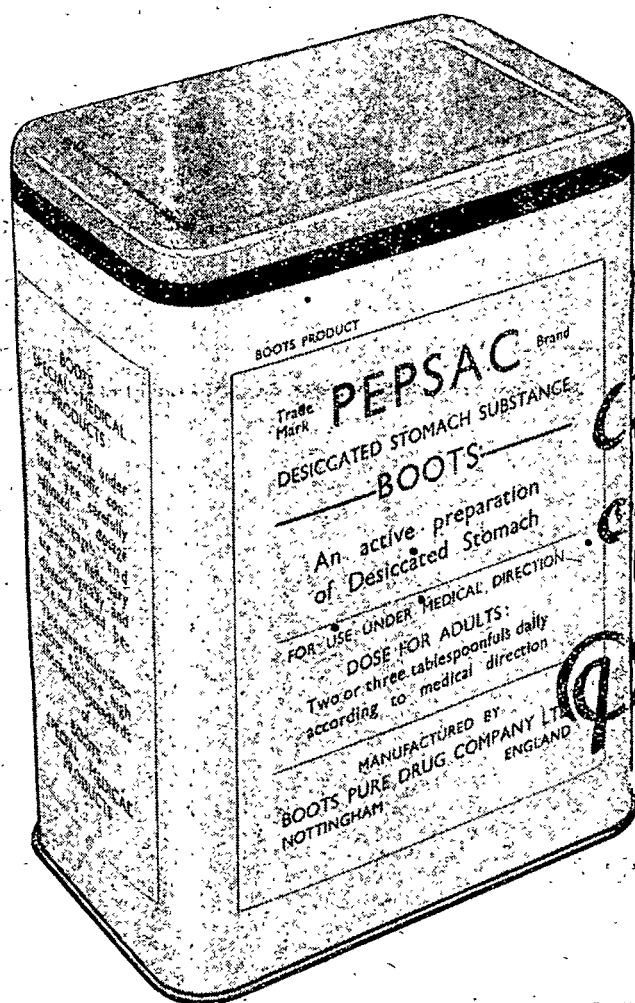
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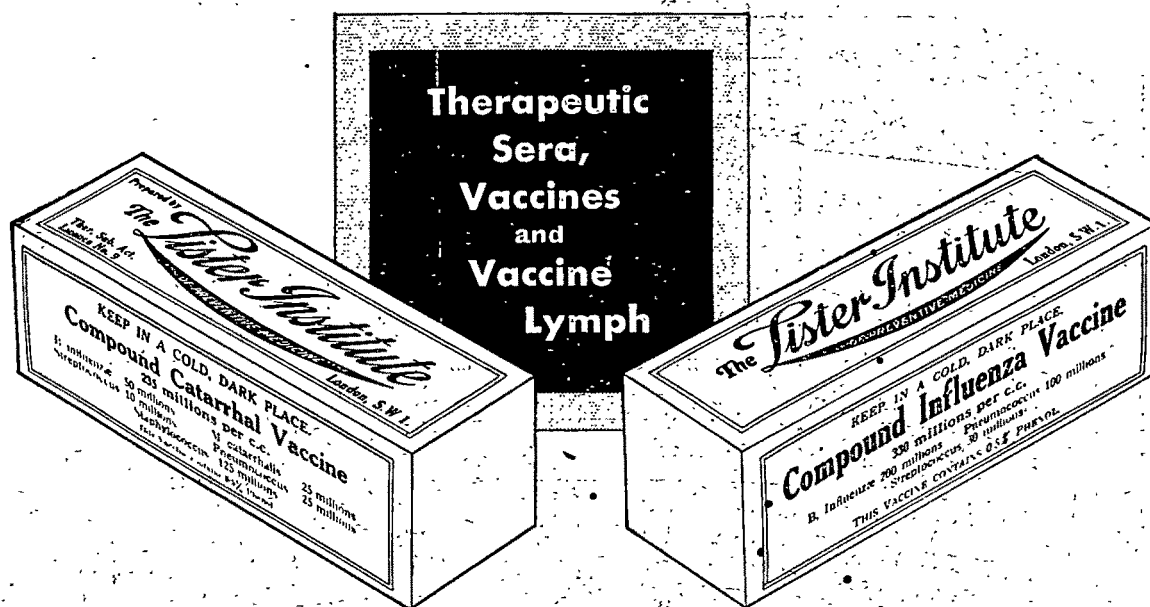
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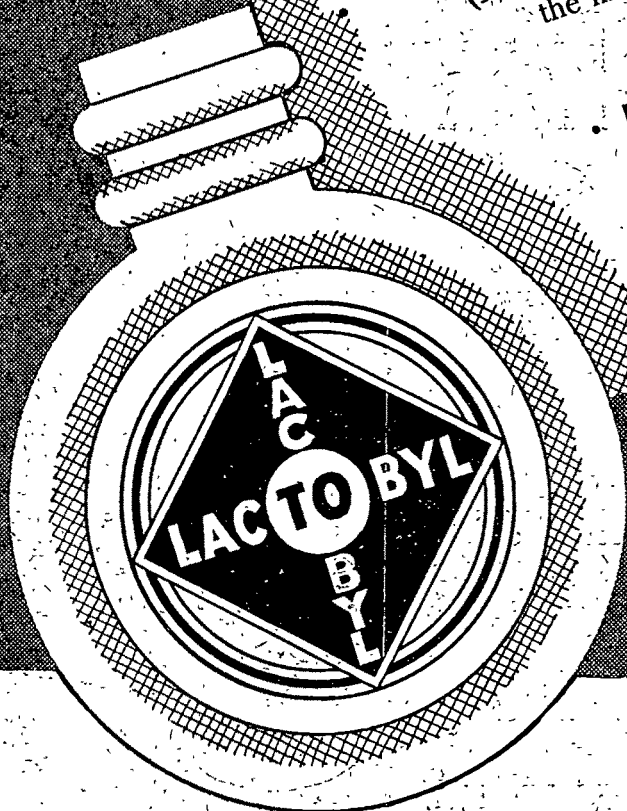
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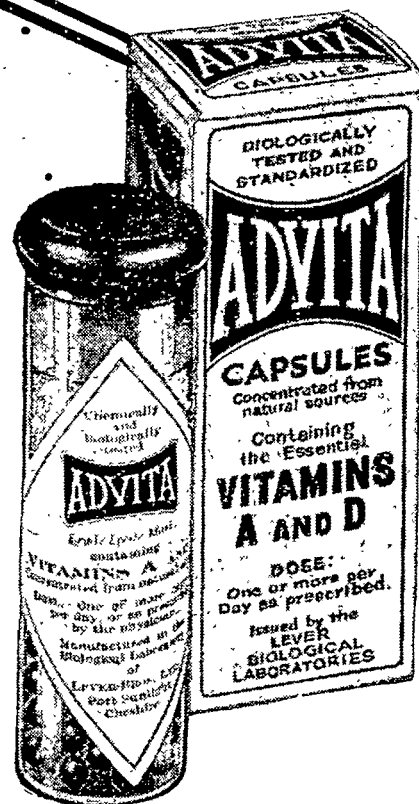
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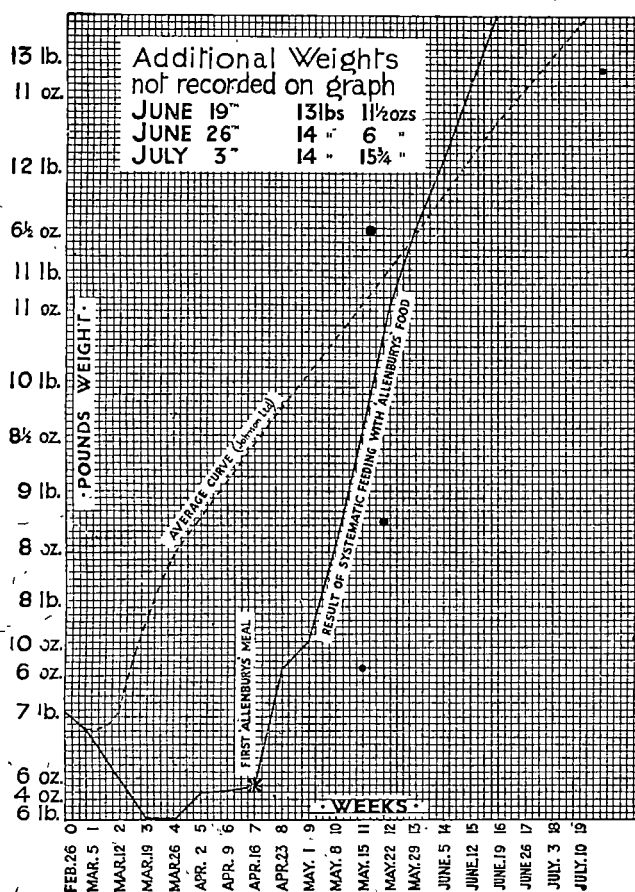
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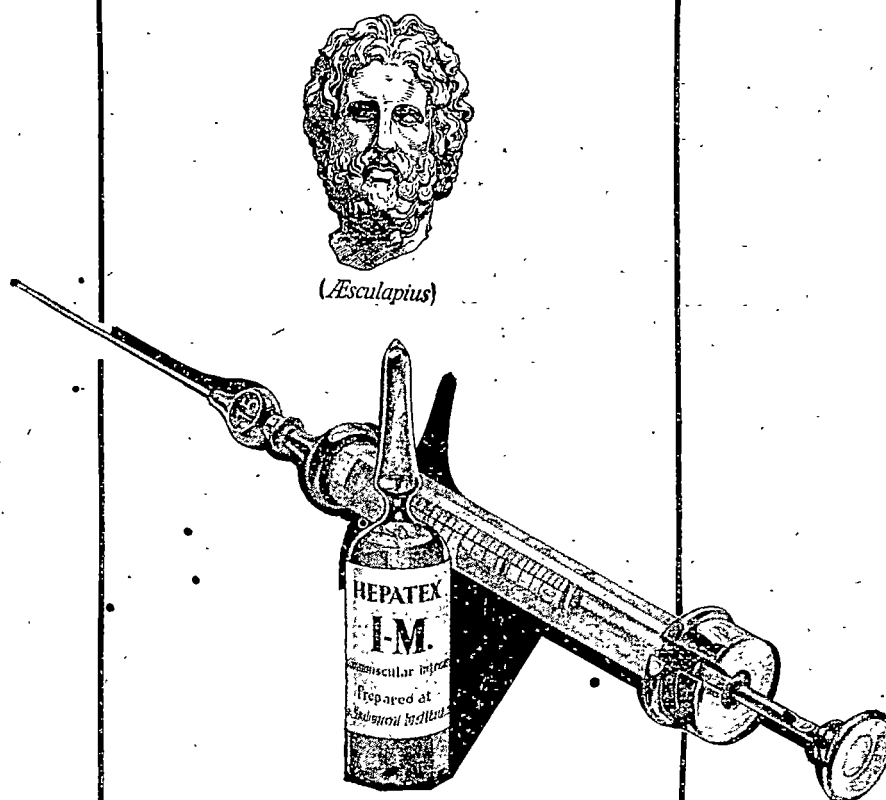
In "Allenburys" Milk Foods Nos. 1 and 2 the proportions of fat and proteins, as well as lactose, approximate to those of human milk, and the process of manufacture, with the addition of dextrin-maltose, keeps the fat and protein in colloidal suspension. To provide for the needs of the growing baby the No. 2 Food contains increased amounts of mineral elements and slightly varied proportions of fat, protein, and soluble sugars. "Allenburys" Malted Food No. 3 is a cereal product which is partly digested during preparation for use and provides a stepping-stone to starch digestion.

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Date: From c. 1300 B.C. The bronze figure is medieval.

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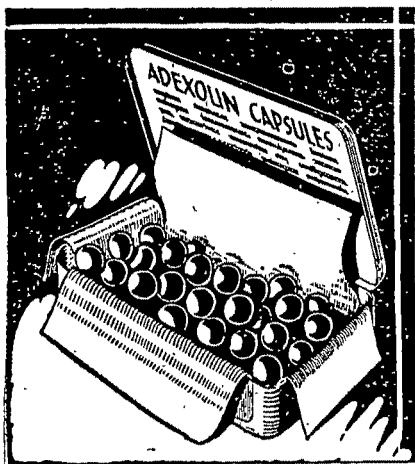
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BRITISH MEDICAL JOURNAL

LONDON: SATURDAY, OCTOBER 27th, 1934

BAD SURGICAL RISKS*

BY

G. GORDON-TAYLOR, O.B.E., M.A., M.S., B.Sc., F.R.C.S.

SURGEON TO THE MIDDLESEX HOSPITAL, ETC.

Apart from the technical competence of the operator, the organization of his theatre, and the environment in which he works, there are many factors which combine to determine the success or failure of a surgical operation, and which contribute towards promoting a glorious result or compassing a fatal ending. The title of the subject for this discussion might appear literally to indicate surgical undertakings which, by reason of their magnitude, by reason of the condition of the patient, or possibly because of both these causes co-operating, seem fraught with grave but justifiable hazard; or the reader perusing the wording of this theme might contemplate a morning spent on listening to a veritable catalogue of perils to which patients have been quite unwarrantably exposed by operators, whose conduct is tacitly implied to have been reprehensible in this respect. The parlance of insurance has, however, invested the term "bad surgical risk" with a rather different connotation: it is the operated, and not the operation, that is envisaged, and the *bad surgical risk* has been defined by Basil Rooke¹ as "*a type of patient whose prospect of recovery from active surgical treatment of his condition falls much below the average.*"

It is not, therefore, intended to discuss in these columns surgical enterprises formidable in magnitude and no less forbidding in their prospective mortality, such as the total extirpation of the thoracic oesophagus for cancer and its reconstitution by some form of oesophagoplasty, a surgical triumph gained in this country only by Grey Turner² of Newcastle in that *annus mirabilis* of oesophageal surgery, 1933, and more recently abroad by Gohrandt of Berlin.³ We are not to consider the ablation of large hepatic tumours, whether these be primary hepatic adenomata or the direct extension of a colonic cancer. Interpelvi-abdominal amputations^{4,5} claim no attention in this discussion, although they are still associated with an operative anxiety sufficient to designate their performance as a risky procedure. Dramatic and heroic extractions of emboli from the pulmonary artery, although bad surgical risks in the literal sense, are to make no claim on our notice, nor are the marvellous encroachments of war surgeons into operative fields hitherto unexplored; than which there has been no greater hazard and no more glorious attainment than Pierre Duval's extraction of a bullet from the intrapericardiac portion of the inferior vena cava.⁶ In this discussion it is upon the patient himself rather than upon the operation that attention is to be focused.

Various causal agencies are operative in determining a patient a "bad surgical risk": (a) aetiological factors—for example, race, sex, heredity, age, etc.; (b) bodily conformation—fat, colour of hair, etc.; (c) previous

habits and mode of life; (d) antecedent or intercurrent disease, and the state of the cardiovascular, respiratory, urinary, and nervous system; (e) the psychology, etc., of the patient; (f) the pathological condition for which surgery is contemplated, the severity of that condition, and the existence of secondary phenomena affecting the sufferer prejudicially; and (g) the type of operation proposed.

This discussion would assuredly be judged incomplete, and would fail in its object, if one were content with delineating and portraying these "bad surgical risks," and did not adumbrate the therapeutic measures whereby these patients might be made safe, or safer, for surgery.

General Aetiological Factors

Race.—It would be difficult to controvert the accepted view that members of the Jewish faith are notoriously "bad surgical risks"; and in the case of operation the simplest measures are to be preferred: safety must be put before thoroughness and the highest efficiency. It is easier for "a camel to go through the eye of a needle" than for a Jew to recover from an abdomino-perineal excision of the rectum; a perineal ablation must suffice. Moreover, although a Jew may recover from a gastrectomy for ulcer, it is rare for recovery to take place when the pathological condition demanding an extensive removal of the stomach is a malignant growth. I have, nevertheless, a Jewish patient alive five years after a gastro-colic resection for a carcinoma involving the stomach and the whole of the right side of the colon; this is, however, a very exceptional case, which goes to "prove the rule." The Welsh and Irish⁷ have also been impugned as relatively bad risks. The Chinese stand operation well, but my experience of war surgery among those who came "from India's coral strand" convinced me that they were extremely "bad risks."

Mr. Green-Armytage⁸ kindly informs me that the operative risk in natives is related in no small degree to such considerations as blood count, calcium index, blood pressure, which are all lower than those of the "Westerner"; their diet, whether they be meat-eaters or vegetarians, is always defective in vitamin A, with the result that their resistance to infection is below normal, and a merely moderate degree of infection of thorax or abdomen proves fatal. Considerations of diet may also be responsible for the frequency of post-operative ileus after abdominal operations, and for the alarming acetonaemia which may supervene after surgery. On the other hand, the increasing desire of the native to get out of bed at the earliest moment after operation, and the good

* Read in opening a discussion in the Section of Surgery at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

⁷ A lengthy experience of surgery behind the 16th South Irish Division during the war does not confirm but rather refutes this opinion.

musculature of the abdomen, make post-operative thrombosis rare.

Sex.—It is well known that certain operations, such as the extirpation of the rectum by the combined method, are better borne by women than by men, but on the other hand I am confident that gastrectomy is an operation far more frequently followed by anaemia in females than in men,⁸ and therefore to be performed in the former sex more reluctantly. Operations are badly borne during menstruation, pregnancy, and parturition. The sinister effect of the menstrual period upon a radical breast operation is perhaps not sufficiently well known; such an undertaking at that epoch may well prove calamitous.

Heredity.—A long-lived ancestry is a precious possession and an asset of no mean worth, if surgery be contemplated. There are at present no means of altering for the better the proclivity of this or that race to react badly to surgery; we cannot in the twinkling of an eye transform ancestral inheritance or racial characteristics, any more than can "the leopard change his spots or the Ethiopian his skin."

Age.—It is obvious that surgery must be safest during those years when the individual is in his prime, and that operations performed at the extremes of life must carry with them a greater risk than those carried out during the intermediate decades. Nevertheless, it is a remarkable fact that surgery undertaken in the first three months of infant life by skilled and experienced operators is extremely well borne.

Mr. Tyrrell-Gray,⁹ whose considered opinion, based on a vast experience of children's surgery, is an authoritative one, has courteously informed me of the

"absolute safety of Rammstedt's operation for pyloric stenosis; the absolute safety of herniotomy, even double herniotomy, in these early months, if this operation has to be done on account of large size, obstruction, or strangulation, or because it cannot be controlled by any form of truss; likewise the safety of hare-lip operations (although he himself prefers waiting)."

The great anxieties naturally associated with emergency operations during the first few days of life are concerned not so much with the paucity of the hours of separate extrauterine existence as with the actual pathological condition demanding surgery. Fortunately, congenital intestinal atresia is rare, as is also congenital volvulus, but all cases, except the simplest malformation of the hindgut, are extremely "bad surgical risks." Nevertheless, Mr. Gabriel has successfully closed a colostomy performed for some congenital hindgut malformation as an emergency operation in the first few days of life.¹⁰ Apart from gangrenous changes demanding resection of bowel, the prognosis in intussusception is excellent, despite the fact that 50 per cent. of the cases occur between the fifth and ninth months of infant life. Early diagnosis, prompt surgery, and the method of anaesthesia have all conduced to the attainment of this low mortality. Gas and oxygen would appear to be the anaesthetic of choice in these cases, but in my own hands spinal anaesthesia has given me a mortality of only 2 per cent., my one fatal case being one demanding an excision for gangrene of the bowel. The occasional publication in medical journals of successful cases of intestinal resection for gangrenous intussusception in early infancy bespeaks the fatality of the procedure: the continuity of the bowel must be re-established at all costs; a time-saving but chicken-hearted enterostomy after resection is always fatal in these cases.

The aged are naturally "bad risks" in cases of injury, and where any operation of severity is contemplated. The adage that "a man is as old as his arteries" must be constantly kept in mind if any complicated surgical incursion

is under consideration. In the very old, local anaesthesia is probably the method of choice, and with its aid I have successfully performed a colostomy for a woman of 98 years with a cancerous rectum, who survived a year; and, in the case of a male nonagenarian, I anastomosed the ileum to the pelvic portion of the rectum for a large obstructing carcinoma of the sigmoid: the patient survived two years, and died of uraemia. It is only fair, however, to record that the oldest patient successfully operated on had general anaesthesia administered; she was a woman of 107 years with a strangulated femoral hernia, and was alive a year after without sign of recurrence. I have, under light general and local anaesthesia, resected a carcinoma of the transverse colon in a gentleman of 85, who is alive six years after.

Bodily Conformity

Those whose stature and form are abnormal are "abnormal surgical risks." The microscopical woman of a few stones in weight may finally disappoint the operator just as easily as the giant or the Hercules.

Fat is well known as a surgical handicap, and where there is no necessity for special haste time may be well spent in reducing weight and improving the musculature of the heart and body under the guidance of a skilled physician and the co-operation of a biochemist. Apart from the mechanical difficulties of operation in the obese, the depth of the wound, the friability of the tissues, the less secure ligature of vessels by reason of greasy gloves, the obscuration of the serous coat of the large intestine by enormous appendices epiploicae and the fatty tissue on the bowel, it must be remembered that there is probably the same amount of fat round the heart and in the heart itself; it is this type of person who perhaps appears more prone to thrombosis and embolism, and who certainly resists infection less well than his neighbour of more spare frame. Any operation for a ventral hernia in a fat woman, where much of the contents of the abdomen have been long outside the coelom and are now replaced, is almost always disastrous.

The general condition of tissues is also important. Prolonged confinement to bed tends to produce deterioration of the tissues of the body, a poor cardiac musculature, and a general inability to respond to any severe surgical procedure. On the other hand, confinement to bed for a few days before operation may be a most salutary preliminary measure: this simple measure may make an easy operation of one which promised to be difficult, and less pain is experienced by the patient than if he had had his abdomen opened "the morning after the night before." The auburn-haired, especially children, are liable to occasional anxiety during and after operation, and their scars have a tendency to become keloid in character: a keloid condition resulting from a circumcision is a terrible sequel to the commonest operation in the world.

Habits

It is obvious that those addicted to excess in the matter of alcohol, tobacco, drugs, etc., must be "worse surgical risks" than their fellow creatures. The liability of the alcoholic to develop delirium tremens after operation or injury is well known: the mortality of any post-operative chest complication is far higher, but if he is already the possessor of a cirrhotic liver, the chances of his recovery from any really severe operation are remote.

Antecedent or Intercurrent Disease

This must obviously prejudice the patient's chances of a successful operation, and this is the more true of cases in which disease is latent and unexpected, and when some urgent operation is required. How often has pulmonary

tuberculosis flared up—perhaps disastrously—in a patient making a good recovery from a perforated gastric ulcer. Where the thoracic condition is known beforehand, the use of an appropriate anaesthetic may minimize the risk.

Cardiovascular disease and degeneration must obviously load the balance against the patient: arteriosclerosis and calcification of vessels will obviously be a matter of greater moment in some varieties of operation than in others. When vascular disease is combined with fat in a Jewish patient with a growth in the colon, the surgeon will be prudent who avails himself of the Paul-Mikulicz type of exsection. The co-operation of a good physician—not necessarily a cardiologist—is of great help in the pre-operative treatment of those with a heart and a blood pressure deviating from normality, who are awaiting a severe operation. Sometimes, in spite of cardiovascular degeneration, "bad surgical risks" will recover from very severe surgery, and I have saved a hind-quarter amputation in a man of 63 with marked calcification of all his arteries, demonstrable in radiograms. Again, four years ago I extirpated a cancerous rectum for a patient of 75 years with auricular fibrillation who still survives. Vascular disease carries other risks more remotely connected with the operation, such as cerebral haemorrhage, cerebral thromboses, intraocular haemorrhage, etc., but usually those with a high blood pressure are found to stand operation extremely well. A low blood pressure is a more serious handicap for severe surgery than is hypertension.

The development of post-operative thrombosis and embolism is one of the tragedies of surgery. George Bankoff,¹¹ employing a thyroxine test, was able to group patients into two classes: (a) thyroxine-sensitive, and (b) thyroxine-resistant; he further found that it is only in the thyroxine-resistant cases that thrombosis occurs. He claims that the complication can be prevented by three hypodermic injections of atropine 1/100 grain and ephedrine 1/4 grain; these are commenced on the first day after operation, and repeated on the third and fifth days.

The odds must be desperately against survival from any but the simplest operation in those with *Addison's disease**; my only case of appendectomy in such a case died. I have had no personal experience of eucortone in this rare disease, and in an emergency there is little time for premedication.

In *diabetes* the risks and dangers of surgery are now negligible since insulin and glucose therapy have been employed pre-operatively. The cause of death in fatal cases is senility, not the glycaemic condition. The only anxiety is post-operative vomiting, especially if the patient is unable to take glucose. *Renal disease* obviously constitutes an added risk: renal breakdown will be referred to when genito-urinary operations are under consideration.

Antecedent infections constitute an added risk in surgical procedure. Those who have suffered from *erysipelas* in the past may develop it again during the aftermath of an operation, and those who have had *tetanus* in connexion with a wound years before may have a recrudescence of the infection if the part be re-operated on; the fresh outburst may indeed prove fatal. I have known an alarming recrudescence of a *pyogenic infection* in the case of a man with a diaphragmatic hernia resulting from an old abdomino-thoracic gunshot wound: the hernia was operated upon by the transthoracic route ten years after his original wound. In these matters the bacteriologist may afford most valuable aid. Those who have recently suffered from some *systemic infection*, such as pneumonia, influenza, etc., are bad risks. Where opportunity arises, operation should be deferred as long as

possible. The performance of herniotomy soon after a bad cold or an attack of influenza has been followed on more than one occasion by thrombosis and by recurrent embolism, and it is my practice to defer these operations until the summer, especially in the case of those who are approaching, or who have reached, middle age. The *syphilitic* who has been well treated for his disease usually bears operation well, but the onset of a gastric crisis or some other type of crisis may occasion some anxiety during convalescence. The presence of a syphilitic history will modify the type of operation envisaged. The onset of general paralysis may be precipitated by an accident in those who have had syphilis.

Second operations, following hard on the heels of the primary surgical attack, are apt to be followed by thrombosis of lung or limb; but in these cases the operation is almost always of an urgent character, and the surgeon cannot choose his own time.

Psychological Factors

Any surgeon of experience will have convinced himself that "the psychological undesirables," considered from an operative viewpoint, constitute as numerous and motley a collection as the Gilbertian list in *The Mikado*. That surgeon will be wise who refrains from any operation of convenience upon those who require much persuasion or over-persuasion: he should beware of the apprehensive patient; and he will also regard with anxiety the man with huge piles of books on the tables at each side of his bed; the man with the rapid pulse and the stack of French novels around him; and likewise the individual who is reading his paper upside-down!

An eventful recovery, or worse, may be confidently predicted for those who change their religion the night before an operation, and for the politician or potentate who keeps the theatre waiting while the final lines of his autobiography are completed. These types may well be regarded as "bad risks" before operation, but the appearance of these eccentricities or unusual whims in a patient after surgery are signposts of ominous portent. Unfortunately, this attitude of mental unrest often develops only after an operation, and the operator may be taken unawares. It is commonplace experience that clergymen, doctors, nurses, actors, and those of an artistic temperament are "poor surgical risks"; and garrulous loquacity, pre-operative or post-operative, whether it be an individual trait or a transient phenomenon, is a danger signal that should not pass unnoticed: it so often heralds surgical disaster.

Pathological Conditions Demanding Surgery

There are certain anatomical regions of the body which appear to tolerate surgical incursion and attack far better than others; in this respect the gynaecological surgeon is at a great advantage; the invulnerability of the pelvis is a surgical adage. No matter what the pathological condition present, no matter how derelict the patient, a good result may be almost confidently predicted. *The pelvis is indeed the surgeon's fairyland*: there are few or no "bad surgical risks" in this area of the body.

Surgery of Thyrotoxicosis

To my mind the greatest advance in surgery during the last quarter of a century has been the extraordinary increase in the safety of operations for this condition. Whereas operations for this type of case were at one time fraught with grave anxiety and associated with a heavy mortality, save in the hands of a few with great experience and special knowledge of the disease, it has now become one of the safest of the operations of surgery.

* Carl Greene, Walters, etc.,¹² report a successful orchidectomy for tuberculosis in a patient with Addison's disease.

Pre-operative medication with iodine, and the repeated investigation of the basal metabolic rate during the pre-operative period of rest in bed, has made these cases almost safe for surgery. The surgeon has become almost a mere carpenter in the hands of the physician and biochemist, who indicate the exact time for surgery with an accuracy akin to that of the astronomer. The work of our Courtauld Institute of Biochemistry at the Middlesex Hospital has enabled us to reduce the mortality of the operations for toxic goitre to an almost infinitesimal figure: the larger number of cases have been operated upon by my colleague and assistant surgeon R. Vaughan Hudson, but the results of all the cases operated upon by all the surgeons in Middlesex Hospital yield a mortality rate of under 1 per cent. For my own part I prefer regional anaesthesia, but the combined results of eight surgeons, employing almost every variety of anaesthesia, would appear to discount the value of my personal predilection. Increased knowledge has given even those whose goitre operations are not yet to be numbered in thousands rules by which dangerous surgery may be avoided in this class of patient.

Operation is contraindicated and dangerous in the following circumstances: (a) If the patient has been dosed with iodine indiscriminately for months or years previous to seeing the surgeon with a view to operation, at which time the basal metabolic rate is above 40, and tachycardia is present, along with marked loss of weight. (b) If, when put on iodine by the surgeon preparatory to operation, the patient gets *clinically worse* and the basal metabolic rate rises. (c) If operation is delayed too long after iodine has been prescribed; the iodine loses its action, and the basal metabolic rate rises even on iodine. (d) In the presence of an "acute" infection, such as tonsillitis. (e) If the patient is maniacal or mental. (f) If the patient shows an idiosyncrasy to iodides, as is seen by coryza, nasal discharge, skin eruption, and bronchitis. These risks can be overcome by the following measures: (a) Only giving iodine immediately prior to operation. (b) Operating only if the response of the patient to iodine is favourable—that is, the basal metabolic rate falls to constant low level. (c) Not operating if iodine makes the patient worse: the iodine should be stopped for about two months and then restarted in an effort to obtain a favourable response: *this invariably happens*. (d) Operation should not be delayed too long after iodine has been started—that is, more than twenty-eight days. In spite of current belief, the following are not contraindications: (a) heart failure, congestive or anginal; (b) auricular fibrillation or flutter; (c) hypertension; (d) extreme youth or old age.

Surgery of the Tongue and Mouth

Increased knowledge and experience of radium therapy has given us an alternative method of treatment for those who are, on general grounds, or because of the extent of the growth, considered "bad surgical risks." Whatever views may be held as to the best form of treatment for cases of cancer of the anterior half of the tongue, which are "good surgical risks"—and each such case must be considered strictly from every point of view—there can be no doubt that the final results of radium therapy are at least as good as, and probably much better than, those of surgical extirpation, where the growth involves the posterior portion: and the mortality of the procedure is but a fraction of that involved in the more drastic measure.

"Block-dissections" of the neck for the extirpation of the cervical glands are usually well borne even by the aged, but in the case of bad risks, and for recurrence, the various methods of radiation therapy are available.

Surgery of Peptic Ulcer

Ill-advised, ill-timed, or inappropriate surgery may convert into a "bad risk" one which seemed to promise well. There is no single form of operative procedure universally applicable to every case of peptic ulcer. Apart from those general considerations, outlined in the introductory paragraphs, which combine to constitute a patient a "good" or "bad" risk, there is perhaps no factor which so cogently determines, in which class the sufferer shall find himself during and after a gastric operation as the judgement of the surgeon under whose care he is placed. By surgical judgement, or the lack of it, the patient's cause may be won or lost.

The immediate result of surgical incursion will be undoubtedly influenced by the particular technique employed: it is manifest that for the patient who is admittedly a bad risk the most simple, the most gentle, the most rapid procedure is the *method of election*. The position of the ulcer, its size and fixity, any suspicious characters suggestive of malignancy, the results of fractional gastric analysis, are all points worthy of careful consideration in the "good risk" candidate for a gastric operation, or in one whose previously poor and debilitated condition has been improved by preliminary treatment to approximate normality. Although these data, amassed and collected by radiological and biochemical methods, will assuredly influence and determine the type of operation in the "good risk" patient, in the "poor surgical risk" they must not be unduly stressed: a gastro-jejunostomy, or even a jejunostomy, performed under a local anaesthetic may be the wisest procedure, and at worst the patient's condition may be improved and ameliorated, so that more drastic surgery may be considered later, if by any chance symptoms should reappear, or should that full measure of health which surgery can confer not have been attained by the minor procedure.

The dangers of post-operative complications in "the bad surgical risk," as indeed in all those who undergo upper abdominal surgery, may be greatly reduced by the employment of regional and splanchnic anaesthesia: this may be combined with very light general anaesthesia. Light ether, or even ether and chloroform anaesthesia in combination with the methods of infiltration, has, in the last dozen years, practically abolished thoracic complications in my upper abdominal operations. With such a technique the mortality of gastrectomy for ulcer is under 4 per cent.

High spinal anaesthesia, with the great fall of blood pressure induced, has not in my hands been found to help the "bad surgical risk"; but the surgeon will, of course, utilize that technique with which he has made himself familiar, and which has always given him the best results.

Gastric and Duodenal Haemorrhage from Ulcer¹³

A patient with a chronic peptic ulcer may be made a "bad surgical risk" by ill-judged and indiscriminate surgery, but he is already and at once a "bad risk" when he has bled from that chronic ulcer. Furthermore, if such a patient is a "bad surgical risk," he is no less a "bad medical risk," although the truth of this latter statement may not have always been appreciated. The mortality from bleeding among cases of chronic ulcer of the stomach and duodenum treated by non-operative measures at Middlesex Hospital from 1924 to 1933 amounted to 24 per cent.—a percentage mortality almost identical with that obtained by A. M. Cooke from the St. Thomas's figures; in the Middlesex Hospital cases a second large haemorrhage produced a mortality rate of 78 per cent., and with each succeeding haemorrhage the risk became greater and

greater. It would therefore appear that in these cases operation is required before a second haemorrhage takes place, and that for such patients, and at the particular stage in the course of their illness, surgery is the only logical measure of safety. The surgical risk would appear to be least bad, and the moment for intervention most opportune, not longer than forty-eight hours after the bleeding has ceased.

Finsterer of Vienna,¹⁴ however, regards bleeding from a chronic ulcer as an imperative indication to operate at once. Early operation in his hands is associated with an extraordinarily low mortality. After twenty-four to thirty-six hours they become bad surgical risks, and the mortality rapidly rises. My own figures for operations performed for acute haematemesis from 1919 to 1926 show a mortality of 19 per cent., so that the risk is not inconsiderable. Closer co-operation between physician and surgeon will show us which are the cases that should be attacked by surgical intervention; but if surgery be required operation should be performed early under local anaesthesia, and in certain cases a caecostomy may be advantageous.

The possessor of an anastomotic ulcer is a "bad risk," and to quote the words of Garnett Wright,¹⁵ "The Angel of Death is hovering near, and the fluttering of his wings can be almost heard." The patient, worn out with pain, is in many cases little able to stand the prolonged and complicated surgical operation which is required to relieve his symptoms and to prevent a recurrence of his malady. Increasing experience of the operative surgery of this condition, which is in itself becoming more frequently encountered, will doubtless lower its mortality in the hands of those who most frequently have to treat these cases. A gastro-jejunal or a jejunal ulcer may be a severe burden to bear, but an added communication with the colon increases the duration of the operation to cure it, and a complicating haemorrhage makes the risk more desperate than ever.*

Gastric Cancer

All gastric cancers are "bad surgical risks," and I am in the habit of teaching that, whereas a gastrectomy for ulcer will always try to live, a gastrectomy for cancer will always die if he can. Nor am I alone in regarding the condition and its operative surgery as a "bad risk," for Bastianelli,¹⁶ whose enterprise and whose sympathy enable him to resect no less than 44 per cent. of his cases, admits a mortality of 28 per cent. Even excluding three cases of total gastrectomy and twelve stomach-colon resections—which, of course, tended to increase the death rate—his mortality rate from operation was 25.4 per cent.

Finsterer,¹⁷ however, employing local anaesthesia, had only twelve deaths in 202 operations—6 per cent. In the advanced cases where pancreas, colon, or liver are involved, resection carries, of course, a much heavier mortality. In those cases of cancer of the stomach associated with stenosis at the pyloric extremity, protracted vomiting, dehydration, toxæmia, etc., may make a single-stage operation a tax on the patient's resisting and recuperative powers that he is incapable of bearing. In these cases, therefore, a preliminary drainage operation and a subsequent resection may turn the "bad risk" into a "good" one.

According to the condition of the patient, the procedure may take the form of an ordinary anterior or posterior

gastro-jejunostomy and a later resection; or the stomach may be cut across above the growth and an anastomosis performed between the proximal end and the small intestine. The upper end of the distal segment is sutured over, and the suture line reinforced by omentum. The operative technique of the operation is improved and facilitated by a clamp of the von Petz type. It is almost imperative in every case of gastrectomy for cancer to make use of the transfusion of blood.

Surgery of the Spleen

There are certain forms of splenic pathology where operation is associated with severe risk. The danger of post-operative thrombosis in cases of splenic anaemia with a high initial blood platelet count is perhaps not always sufficiently appreciated. R. E. Kelly¹⁸ of Liverpool has, amongst others, drawn attention to it. The services of a competent haematologist are of the greatest importance when splenectomy is contemplated for this disease. Splenectomy for thrombocytopenia has, in my experience, been a most dramatic and a safe operation, but the mortality has been affirmed to be 80 per cent. when the operation is done in an acute phase. The risk of transfusion in cases of acholuric jaundice is not inconsiderable.

Cancer of the Colon and Rectum

It will naturally depend upon that percentage-mortality which is regarded as fair and justifiable for an operation, to designate the surgical adventure as a "good" or "bad risk." By reason of the operative mortality of colectomy for cancer of the colon, it would seem that most of these cases are to be regarded as "unfavourable risks." Sistrunk,¹⁹ in 1928, while affirming that surgery offers the only cure for malignant disease of the colon, deplored the high mortality of colectomy. "Except for operation in certain serious emergency cases," he wrote, "the mortality following operation for cancer of the colon is perhaps higher than in any other type of intra-abdominal operation."

Grey Turner in 1929²⁰ admitted an operative mortality of 12.28 per cent., but many of his cases were most complicated resections. He appears to think that a mortality of 5 per cent. would represent the acme of surgical judgement and the perfection of operative technique. The mortality of the procedure may be reduced, and the risk improved, by drainage of the bowel, preliminary or simultaneous, the employment of exteriorization methods of the Paul-Mikulicz type, lateral incisions over the growth where possible; the provision for drainage of the abdomen at the site of anastomosis, the employment of blood transfusion, and possibly preliminary immunization. The mortality of operations of the Paul-Mikulicz type in my hands is in the neighbourhood of 1 or 2 per cent., and these should be used more frequently.

In the case of cancer of the rectum there are many types of operation, but the most important factor in the management of the case is the judgement of the surgeon. In forming a judicious estimate of his patient he will take into consideration the age, the sex, and the cardiovascular system; the urinary tract and the bodily configuration of the invalid will also demand attention. A preliminary microscopical section of the tumour may be possible, and may help in forming an opinion as to the malignancy of the particular cancer. The surgeon may utilize the Moots-McKesson test of operability by employing what is termed the "pressure-ratio percentage"; the pulse-pressure over the diastolic pressure is calculated in percentages, the normal being about 50 per cent. If the pressure-ratio is high or low there is reason to apprehend danger. If below 25 per cent. or above 75 per cent. the case is inoperable. Close attention to these points and a wise and judicious decision will make a "risk" a good or fair one.

* Mr. A. J. Walton has operated on seventy-nine of these cases, and out of his last twenty cases has had the amazingly low mortality of only one death (*Lancet*, April 28th, 1934). My own results (G. G.-T.) are: fifty-four anastomotic ulcers treated by resection, with ten deaths. Excluding ten cases in which there was a communication with the colon, and of which four died, there were six deaths in the remaining forty-four cases—that is, 13.6 per cent. mortality.

The Surgery of the Biliary Tract

In contrast to the extraordinary safety of operations on the gall-bladder the surgery of the common bile duct is associated with a much heavier risk to life. To make these cases of jaundice safer for surgery operation should be deferred until the jaundice begins to subside. Blood transfusion is better than intravenous calcium chloride as a means of diminishing or preventing the tendency to haemorrhage, and is especially valuable where the bilirubin curve tends to rise. It is also important to administer large quantities of water and of glucose before and after operation—by the rectum or by intravenous infusion. In the worst cases of jaundice nothing more than drainage should at first be essayed.

Genito-Urinary Surgery

A candidate for the operation of prostatectomy is a "bad surgical risk" if the operation is performed when the blood urea is over 60 mg. per 100 c.cm.; and if there is evidence of moderate renal impairment, even in spite of a normal blood urea estimation. Eric Riches and Douglas Robertson²¹ regard it as dangerous to operate radically if the urea-clearance test of van Slyke for estimation of renal function is below 60 per cent. of normal, no matter how normal may be the blood-urea estimation.

Secondary nephrectomy for any condition is always an anxious operation, and two or three transfusions and infusions may be required to carry the patient through his convalescence from what may be a carnivorous type of surgery.

Conclusion

It requires no superlative enthusiasm of mine, no unwarranted optimism, to foresee and foretell that, as the "bad surgical risk" of a decade or two ago is now a "normal or good risk," so will the "despairs" of to-day be the "certainties" of the morrow. The craftsmanship of surgery is not yet finished and perfected as an art—fresh techniques will be evolved, fresh avenues of approach will be explored, fresh territories will assuredly be conquered. More accurate and certain knowledge of the causation and cure of disease, and methods and forms of therapy still undreamt of, will in future days cheat and rob Death of those victims that, in this twilight of our surgical wisdom, appear to us now beyond all mortal aid.

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RETROVERSION OF THE UTERUS*

BY

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BOURNEMOUTH

The usual position of the uterus is one of antelexion and anteversion in the middle of the pelvis, the axis of the uterus being very nearly horizontal. When the exact opposite of this occurs the uterus is retroverted and retroflexed. In between these two extremes any position of the uterus may be found. It is usual to describe a uterus as retroverted when the cervix is pointing downwards or forwards and the axis of the body of the uterus is directed backwards. The retroverted uterus is often retroflexed as well.

The normal position of the uterus is maintained by the structures which are attached round the supravaginal portion of the cervix. These are the pelvic fascia, the bases of the broad ligaments, and the utero-sacral ligaments.

There is a wide divergence of opinion as to the symptoms which result from retroversion of the uterus and the treatment required. Some confusion has arisen from grouping all cases together and not separating those of congenital origin from those acquired after pregnancy and labour. It is my intention, therefore, to make as clear as possible the different groups of cases.

Classification

1. The group of those women who are single and have congenital retroversion: It is a fact that many of them are unconscious of the condition and have no symptoms; these, of course, require no treatment. There are others, however, in whom symptoms begin to appear as they get older. This may be due to increase in degree of the condition, with increasing retroflexion, giving rise to venous congestion and symptoms of backache, increasing dysmenorrhoea, pelvic discomfort, or pain for which no other cause can be found.

2. The group of married women who have a congenital retroversion which gives rise to symptoms, on or after marriage, of which the commonest is dyspareunia; or they may seek advice for sterility; or, if they become pregnant, miscarriage may result. These patients require investigation and treatment.

3. The group of those who are found to have retroversion acquired after miscarriage or labour. This is a large and important group, as is shown by the record of two hundred consecutive confinements. Post-natal examination one month after delivery showed that of the primiparae 13 per cent. had retroversion; of the multiparae 3.5 per cent. had retroversion. These patients had received the advantage of skilled nursing and postural preventive treatment, so that the percentages are probably higher among the greater number of women attended in their own homes. These require treatment in order to prevent subinvolution after labour; the position of the uterus must be corrected in order to prevent the development of symptoms of pelvic discomfort, backache, congestive dysmenorrhoea, leucorrhoea, and dyspareunia. Further, if a retroverted uterus is left uncorrected after labour it will be a factor leading to future prolapse.

The pelvic discomfort is generally of a dull aching nature, aggravated by activity and fatigue. It may have a bearing-down character or may give rise to a sensation of fullness or pressure on the rectum. The backache is generally dull and constant, increased by fatigue and relieved by rest. It is generally felt posteriorly over the sacrum, but may radiate towards the iliac fossae or the thighs.

* Read in the Section of Obstetrics and Gynaecology at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

Treatment of Congenital Cases

In the case of single women many require no treatment and should be left alone. In young married women complaining of dyspareunia or sterility or miscarriage the condition may be treated by manipulation and a pessary, or by operation. It is advisable to give a good trial to medical treatment before resorting to a surgical operation. When treatment is indicated for the above symptoms it is often found that correction of the misplacement cannot be carried out as the manipulations cause pain, and it is difficult or impossible to correct the misplacement. In such cases it is advisable to carry out an examination under an anaesthetic.

The patient is anaesthetized, a thorough pelvic examination is made, and the body of the uterus is pushed forward either by the fingers alone or with the aid of a vulsellum forceps on the cervix. In difficult cases a uterine sound may be required to assist the reposition of the uterus. Having put the uterus into a satisfactory position, a Hodge pessary is inserted. This is left in for two or three months, and it is then removed and the position of the uterus after removal ascertained. If the uterus remains in good position after this treatment nothing further need be done. If, however, the uterus reverts to its old position after removal of the pessary, the question will arise whether to replace the pessary or to perform an operation. In order to arrive at a decision all the factors in the case must be carefully considered. If the position of the uterus cannot be corrected under an anaesthetic the indications for operative treatment appear greater, but generally speaking the indications for operation in single women do not often arise. In married women, on the other hand, symptoms are often sufficiently important to require treatment by pessary or operation.

Treatment of Acquired Retroversion

Seeing that retroversion is most often the result of pregnancy and labour, it is very important to adopt all precautionary measures which may prevent the occurrence of this displacement. The most important of these precautionary measures consist in promoting the free drainage and anteversion of the uterus during the puerperium. The puerperal woman should assume a prone position for at least two hours in the day. The bladder should be emptied at regular intervals, and the abdominal binder should not be sufficiently tight to press the fundus of the uterus back. Adequate rest in bed is essential, but it is difficult, for economic reasons, to arrange for hospital patients to stay in bed for more than twelve days. At the end of a month a post-natal examination should be made, and the position of the uterus determined. If the uterus is retroverted the position must be corrected by manipulation, and a Hodge pessary inserted for two months. At the same time the patient must be instructed to do all she can to promote involution of the uterus and pelvic floor by suitable exercises.

General lines of treatment fall under three headings: exercises, pessaries, and operation.

Exercises are most useful in helping to restore tone to the uterine supports after labour during the puerperium. They are helpful at a later date, but are of more value in restoring loss of tone than in repairing injury to the tissues. Further, their scope is limited, because it is difficult to give instruction in exercises designed to strengthen the levator ani muscle and the uterine supports, and it is even more difficult to get women to carry out these exercises except under expert instruction.

Treatment with Pessaries.—The vulcanite Hodge pessary is the instrument most suitable for temporary treatment of retroversion, and is far superior to the rubber ring for this purpose. Indications for its use are: (a) In mobile

puerperal retroversion after correction of the position of the uterus. The pessary should be left in two months, during which time the pelvic floor and uterine supports regain their normal tone. On removing the pessary the uterus should remain in a position of anteversion. (b) In non-puerperal mobile retroversion—that is to say, when the retroversion is discovered at some interval after the last confinement. Here the pessary treatment is not likely to effect a permanent cure, but will relieve symptoms and arrest the progress of the displacement. When used in these circumstances the pessary will act as a valuable diagnostic agent, for if symptoms are cured by its introduction it shows that they were due to the backward displacement of the uterus. This will be of value in deciding whether operative treatment should be undertaken. (c) Pessaries are useful after correction of a backward displacement in early pregnancy; the instrument will prevent the recurrence of the retroversion. The main indications for pessary treatment are as a therapeutic test and as a temporary measure in puerperal retroversion. When, however, pessary treatment cannot effect a permanent cure, and relapse occurs after removal, the time has come to consider the advantages of operative treatment.

Operative Treatment of Retroversion

The indications for operative treatment for backward displacement of the uterus are in some cases quite clear when symptoms are severe or cause the patient considerable discomfort, or cannot be alleviated by pessaries or other means. This may occur when the uterus is fixed and the ovaries are prolapsed and tender; when the retroversion is associated with pelvic inflammation; when there is dyspareunia; when there is sterility; and when there is abortion. A decision, on the other hand, may be difficult when the symptoms are not severe, and when the retroversion is uncomplicated.

The question of operation is influenced by the age of the patient less than are many operations, for the reason that after operation pregnancy and labour may supervene without any risk of complication or recurrence. Before deciding to operate it is most important to take a very thorough history, make a very complete examination, and to have no doubt that the symptoms referred to are not caused by anything apart from the displacement.

In order to ascertain the opinion of others as to the indications for operative treatment in uncomplicated retroversion a form of inquiry was sent to the senior gynaecologists at the London teaching schools. The result of this inquiry shows that operative treatment is not common. When it is done the commonest indications are sterility and dyspareunia. The present position seems to be against operative treatment in uncomplicated cases. This attitude should, I think, be modified, since there are many patients who suffer severe symptoms from an uncomplicated retroversion who could be cured by operative treatment.

The indications for operation are, in my opinion, as follows:

- (a) When the retroversion is fixed or is complicated by adhesions or by chronic pelvic inflammation.
- (b) When the retroversion is giving rise to symptoms, which are increasing, of backache, pelvic pain, menorrhagia, dysmenorrhoea, or pain and difficulty with micturition or defaecation.
- (c) When the retroversion, though mobile and simple, causes symptoms which disappear after correction of the displacement and insertion of a pessary—for example, dyspareunia.
- (d) When retroversion is causing sterility.
- (e) When retroversion is causing miscarriage.

In uncomplicated cases it is important to use a pessary as a therapeutic test before deciding in favour of operation; if the pessary relieves the symptoms, permanent cure by operation may be looked for with confidence.

Nature of the Operation

The operation of choice is that generally described as the modified Gilliam operation, after the name of the surgeon who first described this operation in the year 1900. The principal points in the operation are that a loop of the round ligament on each side is brought out under the peritoneum and attached to the anterior rectus sheath on each side. Details of the operation are as follows.

The abdomen is opened by a paramedian incision. A stitch of No. 3 chromicized catgut is tied about the round ligament on each side an inch from the cornu of the uterus. The anterior rectus sheath is then cleared, and a small puncture is made towards the outer part at the level of the fundus of the uterus. A special curved forceps is then passed outwards behind the peritoneum till the region of the internal abdominal ring is reached. The forceps then turns inwards in the base of the broad ligament till its point reaches the ligature on the round ligament. The peritoneum is then punctured, the round ligament suture grasped with the forceps and withdrawn along the track made by the forceps through the rectus sheath. The loop of round ligament is then made fast to the rectus sheath and the abdomen closed. The suture material used is No. 3 chromicized catgut, as this has been found satisfactory and no recurrence has occurred.

This operation has stood the test of time and has given complete satisfaction. It has therefore seemed unnecessary to change the technique of the operation or the suture material. In order to confirm these points, letters were written to patients operated upon from two to fourteen years ago, inquiring as to the result of the operation. The replies were illuminating and highly satisfactory.

Modifications of Operation

In order to test my own results I sought the opinion of the senior gynaecologists of the London teaching schools as to the nature of operation employed. All appear to employ a modified Gilliam operation, and find it eminently satisfactory. Many seem to prefer the use of silk, and some think it essential. Many, however, give up puncturing the rectus sheath, and draw the loop of round ligament up between the outer surface of the rectus muscle and the under surface of the rectus sheath. One operator pleats up the round ligament before drawing it through to the under surface of the rectus sheath, to which it is firmly attached by silk, thus approaching the technique of a fixation operation. Another operator pleats up the round ligaments and attaches them to the cornu of the uterus; while a third combines the ventral suspension of the uterus with shortening of the utero-sacral ligaments. Except for these three modifications, all do the modified Gilliam operation, and are satisfied with the results. The majority use silk sutures, but I have found chromicized catgut satisfactory, and think that silk introduces a possible element of sepsis.

Conclusions

Retroversion of the uterus is responsible for a considerable amount of ill-health in women. It may be prevented or cured during the puerperium by suitable exercises and treatment.

Congenital retroversion in single women often causes no symptoms and requires no treatment.

Congenital retroversion in married women does cause symptoms.

Retroversion acquired after labour or miscarriage is common, and the importance of preventive treatment is stressed.

Acquired retroversion often gives rise to symptoms, and requires correction by pessary or operation.

HAEMOPTYSIS: A NOTE ON PATHOLOGY AND TREATMENT

BY

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Haemorrhage from organs such as the lungs and intestines, which are not accessible to the ordinary surgical methods of haemostasis, present a problem which is peculiar to itself; for not only does the practitioner feel more or less helpless, as he is unable to reach the bleeding point, but the psychological effect on the patient of bringing up large quantities of blood—whether from lungs or stomach—together with the knowledge that the lesion is not accessible, leads to a distress of mind which reacts unfavourably on the natural processes which should physiologically help to stay the haemorrhage.

The usual treatment recommended for haemoptysis is along the general lines suggested for the arrest of bleeding when not accessible to direct methods of haemostasis; these general methods have two objects in view, which are as follows. In the first place, to secure a local effect by the administration of drugs or other preparations which have the reputation for promoting clotting at the source of the haemorrhage by increasing the coagulability of the blood; secondly, to endeavour to rest the organ from which the bleeding is taking place, and by sedatives to quiet the body, ease the mind, and so cause a reduction in the rate of flow of the blood.

Preparations used in the first group, such as calcium, haemostatic sera, horse sera, etc., whilst possibly of some use are somewhat unreliable in their action, and, in consequence, though used as a routine, they are regarded as rather accessory, and there is a natural tendency to place most reliance on those methods which will promote mental quiet and physical rest to the organ from which the haemorrhage is proceeding, and thus give the bleeding vessel the opportunity of forming a clot sufficient to stay the haemorrhage.

Pathology and Mechanics of Haemoptysis

Should these methods be successful in stopping the haemorrhage the arrest is only slowly produced, with the result that some bleeding will continue to take place for varying periods, according to the size of the vessel eroded, while in addition any movement or disturbance of the patient may cause the haemorrhage to recommence, and as a result a considerable amount of blood will be found in the lumen of the organ concerned.

If the bleeding is intestinal the blood in the lumen will be drained into the intestinal tract, but in a haemoptysis the blood remains in the bronchus and can only be evacuated therefrom by the patient coughing; if, however, the patient has been forbidden to cough, and has been heavily morphinized, the cough reflex will be lost, and the blood will remain in the bronchus. It is well recognized that even during natural sleep secretions from the upper respiratory tract may be aspirated into the lower bronchi; further, it is admitted that, when unconsciousness is increased by morphine or basal anaesthetics, aspirated secretions may cause a pulmonary collapse. In the morphinized patient, with blood or blood clot in the bronchial tree, the chances of mechanical pathological changes taking place are very considerable.

If the quantity of blood in the bronchus is small, aspiration into the smaller bronchi and bronchioles will take place; further, if the patient gives a half-stifled ineffective cough, the blood will be evacuated from the

bleeding bronchus as far as the bifurcation of the trachea, or into the trachea itself, ready to be sucked down by the next inspiration, not only into the diseased lung, but into the healthy one as well. If the cause of the haemoptysis is a septic or a tuberculous lesion, organisms will be aspirated with the blood and will often give rise to a spread of the infection. This spread of the disease is indubitably seen to occur in septic conditions, and is not uncommon in tuberculosis. The reason that it does not occur more often is probably the dilution obtaining in large haemorrhages. If the haemorrhage is a copious one the coagulated blood often forms a clot within the bronchus, which clot is sometimes large enough to occlude a main bronchus, thus producing a sudden complete collapse of a lobe or even the whole lung; moreover, if by an ineffective cough the clot be extruded into the trachea, aspiration may take place into the main bronchus of the sound lung and cause a complete collapse of it.

Illustrative Cases

These mechanical pathological lesions are not merely theoretical possibilities, but are practical facts which we have ourselves observed and of which the following cases are examples.

Case I.—Male, aged 45, suffered from haemoptysis which was treated on general lines. A skiagram taken a few days later showed in the right upper lobe a lesion bronchopneumonic in distribution which was thought to be a tuberculous condition. Two weeks later a skiagram showed collapse of right upper lobe; on bronchoscopic examination we could see new growth occluding the upper lobe bronchus. There can be little doubt that the bronchopneumonic area seen on the first skiagram was produced by lobular collapse secondary to aspirated blood.

Case II.—Male, aged 22. Haemoptysis treated on general lines. When admitted to hospital definite signs at left upper lobe, with signs suggestive of a small area of bronchopneumonia in the right axilla. Sputum, T.B. +. To control the haemoptysis left artificial pneumothorax induced. Haemoptysis ceased and patient improved. Skiagram at this stage confirmed diagnosis of left-sided pulmonary tuberculosis, and showed a small area of bronchopneumonia of lobular distribution in right axilla. Artificial pneumothorax kept up. Sputum became negative. Area in right axilla cleared. We believe that the area in the right axilla was an aspiration spread due to the haemoptysis. It might be argued that it was the spread that led to the haemoptysis, but against this is the fact that it was controlled by the left-sided artificial pneumothorax. As no films were available previous to the haemoptysis the point cannot be definitely settled.

Case III.—Female, aged 40. Patient had a benign growth of left main bronchus. During an attempt to remove the growth by diathermy severe haemoptysis occurred, which was uncontrollable by diathermy and adrenaline. Within twenty-four hours the previously afebrile patient developed a high temperature, with signs of pulmonary collapse of lobular distribution. This was treated by expectorant mixtures and CO₂ inhalations, and the signs in the chest cleared. This sequence was repeated when a second attempt was made to apply diathermy to the growth.

Case IV.—Female, aged 23. Patient had the same type of growth, and diathermy treatment was followed by same sequence of events as in the previous case.

Case V.—Male, aged 16. Large haemoptysis, treated by absolute rest and morphine. On his admission to hospital the physical signs in the chest were those of complete collapse of the left lung. Skiagrams confirmed the diagnosis. The haemoptysis having nearly ceased, it was decided to risk further haemorrhage and to deal with the collapse by CO₂ inhalations and expectorant mixtures, with the result that the clot was expectorated, and in the course of a few days the left lung re-expanded to show a comparatively small tuberculous lesion in the mid-zone.

Case VI.—Female, aged 20. Patient was known to have a small unhealed lesion in right upper zone, and was admitted

to hospital following a large haemoptysis which had been treated on general lines. A few indefinite signs were found in the right lung, and signs of complete collapse of the left lung. This was confirmed by skiagram. After a few days following the coughing of clotted blood, the left lung expanded completely, and the skiagram showed no evidence of any disease in it.

Haemostasis by Congo Red

Experience as exemplified by these cases has led us to the conclusion that the measures adopted under the second group—that is, the use of opiates—are not without danger, and this applies to any drug which definitely abolishes the cough reflex. It would seem not unnecessary that this point be stressed, for one seldom sees a case of haemoptysis in which a large dose of morphine has not been previously given. We agree that it is necessary to reassure the patient, to lessen his anxiety, and to put his mind and body as much at rest as possible, but we are convinced that it is bad treatment to order the patient not to cough, and deliberately to attempt to abolish the cough reflex.

It is well to point out that in early tuberculosis, in acute septic pneumonitis or lung abscess, or in haemorrhagic bronchiectasis, it is seldom that a haemoptysis is severe enough to endanger life, and therefore it is certainly not justifiable to employ a method which may by its application cause a spread of disease. On the other hand, in the advanced tuberculous case with large rigid-walled cavities, in malignant growth, and in leaking aneurysm the prognosis is in any case so poor that the objection to morphine does not hold.

If the use of sedatives is inadvisable it is certain that endeavour must be made to find some reliable haemostatic; those mentioned above have been in use a sufficiently long period of time to prove their deficiencies, though they certainly have their place in treatment. For some two years, in those cases in which haemostatics of this class had failed to effect a result, we have used an intravenous solution of Congo red. This haemostatic appears to have been little used in this country. It was recommended by Becker *et alia* in 1930 for use in haemorrhage.

The precise pharmacological action is not known, but Sachette and Osseladore¹ found that after the intravenous injection of neutral substances into rabbits, changes in the clotting time of the blood took place. In the beginning this change was accompanied by a numerical variation in the thrombocytes, and they formed the conclusion that the reticulo-endothelial system, especially the bone marrow, influenced the production of the thrombocytes.

Becker² *et alia*, from examination of the blood of their cases before and after the injection of Congo red, came to the following conclusions. That the Congo red produced: (1) an increase in the monocytes, (2) an increase in blood platelets, (3) an increase in blood fibrin content, and (4) a reduction in clotting time.

Technique.—The technique of administration is that of a simple intravenous injection, though, the colour of the solution being a deep red, some difficulty may be experienced in knowing when one has entered the vein. We have found from experience that dosage is of considerable importance. For an adult the dose usually given is 10 c.cm. of a 1 per cent. solution. This dose is often followed by a definite rigor of short duration which never gives cause for alarm. In an attempt to avoid the rigor we have tried smaller doses, and have found that although they may succeed in checking the haemorrhage temporarily they are not as successful in obtaining complete stasis as is the full 10 c.cm. dose. We have not so far had need to give a larger initial dose

than 10 c.cm., and from our experience in one case in which by an error double the dose was given we doubt if an increase is advisable, for in that case the patient developed a severe rigor with an alarming collapse; nevertheless, the haemorrhage which had menaced his life and had failed to be controlled by other haemostatics ceased instantly. We have found that occasionally the 10 c.cm. will check the haemorrhage for some time, and then slight recurrence occurs. In such cases the dose may be repeated, a further 10 c.cm. being given in four to six hours. In a large number of cases treated with this drug we have only had two in which the haemoptysis was not sufficiently controlled and other methods were necessary.

Other Methods

In cases of gastric and duodenal haemorrhage results have also been satisfactory, though perhaps not quite so certain as in haemoptysis. Other methods of obtaining stasis which have been suggested, such as the introduction of adrenaline into the bronchial tree, have not impressed us with their efficacy. Adrenaline may be introduced by the nasal catheter, crico-thyroid route, or by the bronchoscope. We have used the first two methods, but in any case the solution is so diluted with blood that effect can scarcely be expected; moreover, the bleeding point is usually so distant in the bronchial tree that it is unlikely that any direct result could be produced. Quite different are the severe and somewhat alarming haemorrhages which occasionally take place in the removal of polyps or a section of malignant growth via the bronchoscope; in this case adrenaline can be applied direct in large quantity over the bleeding area.

In the event of failure of other methods, the induction of an artificial pneumothorax is often successful in staying the haemorrhage. The cause of the haemoptysis must, however, first be considered. If the lesion is an early tuberculous one it will probably be successful, but in these cases the bleeding is usually not so severe as to cause alarm; if the lesion is in an advanced bilateral case artificial pneumothorax may be done as a temporary measure, even if it may be deemed inadvisable to keep it up permanently. In this type of case difficulty may arise in deciding as to the side from which the haemorrhage is coming. If an x-ray is available then the side showing a cavity is the most likely to be the offender, if not, one has little guide, as the ordinary methods of physical examination are not available. Often, however, the patient knows which is the worst side, and in many instances is able to indicate the side from which the bleeding is coming from subjective sensations. But as a contralateral artificial pneumothorax may be successful in stopping the haemorrhage, the position is not quite so difficult as it might appear. If the lesion is a lung abscess or a bronchiectasis, one must weigh up very carefully the urgency of the haemoptysis with the risk, especially in the former case, of producing a pyo-pneumothorax. Occasionally repeated haemoptyses call for some preventive measure. Such are frequently cases of dry bronchiectasis and chronic fibrosis, and an artificial pneumothorax or phrenic avulsion may be a useful procedure.

Conclusions

In a pulmonary haemorrhage the bronchi must be kept free. This can only be attained by leaving the patients their cough reflex. Some method of haemostasis is desirable, and in the failure of the ordinary methods Congo red has proved in our experience to have a very definite use.

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OBSERVATIONS ON THERAPEUTIC MALARIA

WITH SPECIAL REFERENCE TO A CASE
OF HAEMOGLOBINURIA

BY

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Malaria is still the most popular of all forms of treatment for general paralysis in spite of the numerous attempts which have been made to supersede it by other forms of pyrexial therapy. Its popularity with clinicians is derived not so much from the high measure of complete recoveries achieved as from its relative immunity to serious accidents. In thus combining a moderate degree of success with comparative safety, it has proved itself superior to, and generally more acceptable than, any of its rival methods of treatment.

The truth of this claim has been amply borne out by our experience of some 300 cases of therapeutic malaria during the last ten years at Rainhill Mental Hospital. With a judicious selection of cases the number of untoward complications has been almost negligible, and the great majority of patients have succeeded in completing a course of ten rigors, with associated rise of temperature, at no greater cost to the patient than a mild prostration and some degree of anaemia. With adequate after-treatment both of these temporary set-backs have been successfully combated. In about 10 per cent. of the cases a mild degree of jaundice has been observed, associated with the anaemia appearing towards the end of the malarial course, but in all instances clearing up completely after the administration of quinine.

Both the benign tertian and quartan forms of malaria have been employed at different times, but of the two the former has proved the more satisfactory. In our experience the quartan is less reliable, and not so readily controlled with quinine. Despite this, relapses are of very rare occurrence. As will be noted from the accompanying temperature chart the rigors sometimes occur at much more frequent intervals than is characteristic of this strain of malaria. This phenomenon is by no means an uncommon experience with therapeutic malaria, particularly after many generations of the parasite have passed through the human host, and in our opinion is attributable to the fact that propagation is carried on solely by the asexual cycle for so many generations. Blood films examined from such sources show that the parasites mature at different periods, and in the same sample of blood parasites at all stages of development are to be seen. This offers some explanation of the irregular pyrexia, but, in addition, there is some evidence for thinking that there may be a personal factor also concerned.

Case Record

A case which provides an outstanding exception to this general experience has recently been encountered at Rainhill, and because of its unusual features it is deemed worthy of a detailed consideration.

G. H., a male, 46 years of age, was recently admitted to the hospital in a restless, excited, and grandiose state. He had typical delusions of grandeur, and clinically presented a classical case of general paralysis. Though he had few neurological signs, the clinical diagnosis was amply confirmed by serological tests. Thus the Sigma reaction in blood and cerebro-spinal fluid was strongly positive, there was increased protein in the cerebro-spinal fluid, and the large gold-sol curve read 5555554100. The mental symptoms had only been in evidence for just over a fortnight prior to his admission, and as he was in good physical condition there was no hesitation in prescribing for him a course of malaria. Before

inoculation with 5 c.cm. of malarial blood (2/2/34) his acute mental symptoms had considerably subsided, and he had regained to some extent his insight, a circumstance which rendered his subsequent management and nursing very easy. Eleven days after his inoculation (13/2/34) he had his first rigor, and this was repeated at roughly twenty-four-hour intervals for ten days, with an associated temperature averaging 104° F. On two occasions during the course blood films showed the presence of malarial parasites of the quartan variety with a relative increase in the mononuclear leucocytes. After the tenth rigor (23/2/34) quinine was given orally in mixture form (quinine sulphate, 10 grains t.d.s.). Twenty-four hours later (24/2/34), after he had received five doses of quinine, he had a very severe rigor, with a temperature of 105°, the highest recorded. This unexpected and unusual event gave rise to considerable misgivings, but quinine was continued. Two days later (26/2/34) his temperature rose again to 99.6° without any rigor, and the same day a definite icteric tinge appeared on his skin, whilst a little later his urine was observed to be unusually dark in colour. The following day (27/2/34) the jaundice had deepened, and the urine was diminished in quantity and of a deep red colour.

At this stage a sample of blood taken for examination revealed a marked degree of haemolysis, the serum being of a reddish hue instead of the usual straw colour. An examination of a blood film showed severe anaemic changes with anisocytosis, polychromatophilia, and punctate granular cells. There were numerous normoblasts and a few megaloblasts. Among the white blood cells there were myeloblasts and myelocytes

in all stages. The urine contained a large amount of haemoglobin, and spectroscopic examination of both urine and blood serum showed the bands characteristic of oxyhaemoglobin. Another abnormal constituent of the urine, which was alkaline and of high specific gravity, was albumin, present in considerable amount, but there was no deposit of red blood cells or casts. The test for occult blood was strongly positive.

Progress:—This association of malaria, quinine, and haemoglobinuria strongly suggested a diagnosis of blackwater fever, and prompt and vigorous measures were taken to meet this very serious situation. Quinine was stopped (28/2/34), copious drinks were given, and large massive doses of alkalis administered, whilst a careful watch was set upon the quantity and colour of the urine passed. Remarkable to relate, despite this severe haemolysis the patient, who was very clear mentally, had scarcely any subjective symptoms. He made no complaints at all beyond his feeling of weakness, but stated at a later period that for a short time he had seemed a little deaf.

His condition responded exceedingly well to treatment. He passed large quantities of urine, which gradually cleared and became free from haemoglobin and albumin in four days (3/3/34). His blood picture improved *pari passu*, a distinct improvement in the blood films being observed very quickly (2/3/34). The progress of the blood condition may be gauged from the following reports.

2/3/34.—Blood film shows an occasional normoblast; anisocytosis still very marked. Haemoglobin 80 per cent.

3/3/34.—Blood count: red blood cells, 2,800,000 per c.mm.; white blood cells, 7,500 per c.mm.; colour index, 1.4. Leucocytes consist chiefly of myelocytes in various stages of development.

5/3/34.—Blood film shows an occasional normoblast, also many myelocytes. Red blood cells show less marked anisocytosis but severe achromia.

7/3/34.—Halometer reading of red blood cells, 7.32 μ . Blood count: red blood cells, 2,800,000 per c.mm.; haemoglobin, 60 per

cent.; colour index, 1.07. Well-marked anisocytosis still, but no normoblasts seen. Considerable improvement on previous films. 16/3/34.—Blood count: red blood cells, 4,100,000 per c.mm.; haemoglobin, 70 per cent.; colour index, 0.85. Numerous reticulocytes seen in film. Halometer reading approximately 7.32 μ . 5/4/34.—Blood count: red blood cells, 4,600,000 per c.mm.; haemoglobin, 85 per cent.; colour index, 0.9. Only an occasional reticulocyte seen. Halometer reading 7.48 μ .

As will be seen from the report of the last blood examination, the man's blood picture approximated closely to normal. Clinically, his general bodily condition showed corresponding improvement, but at the time of writing (April, 1934) he still has a mild degree of tachycardia—a residuum, no doubt, of the profound degree of anaemia. His mental condition is very satisfactory, and he will shortly be discharged from hospital as fit to resume outside life and pursue his former occupation.

Discussion

The quartan strain of malaria employed in this case had already passed through two female patients, who throughout the course of treatment of the usual length had not manifested any unusual or alarming symptoms.

Further, another male patient, inoculated simultaneously and with the same blood, ran the course in the usual way. The possibility of a previous malarial infection either of the malignant or benign form has been definitely excluded by investigation of the man's previous history.

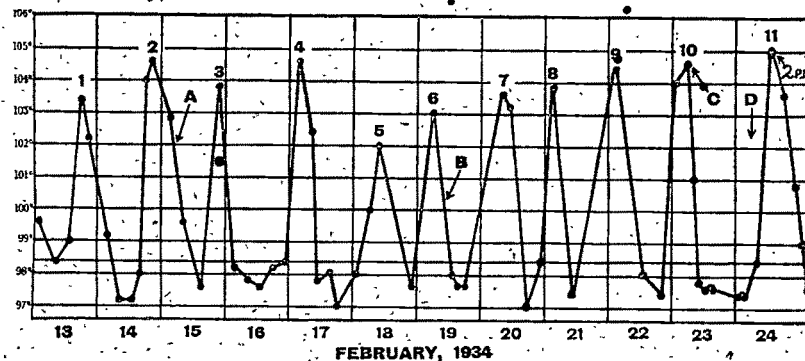
If it serves no other purpose, this phenomenal case illustrates the obscurity

with which the aetiology of blackwater fever is still surrounded. There would have been no hesitation in labelling this case as one of true blackwater fever if the malaria had been of the malignant variety, for in this case most of the characteristic features of this disease made their appearance in the usual sequence. Thus there was the malarial course terminated by quinine, and this, in turn, followed by the intravascular haemolysis, resulting in haemoglobinuria, jaundice, and anaemia. As in most cases, it is very puzzling to assess the importance of the part played by quinine in the production of this condition, but it is very significant that the symptoms appeared immediately after the administration of the drug, a feature of the aetiology which is much emphasized in textbook descriptions. Other causative factors of haemoglobinuria can be dismissed—namely, drugs (for example, potassium chlorate), over-exertion, excessive cold, as in the paroxysmal haemoglobinuria variety, in which in the last-mentioned case there would in all probability have been previous attacks.

Whatever may be the nature and source of the lysis producing such severe haemolysis, it would seem from the experience of this singular case that a condition identical with, or strongly resembling, blackwater fever can arise after benign malaria treated with quinine as well as after the malignant form. The complete absence of any reference to this possibility in all standard textbooks of medicine testifies to the extreme rarity of the condition.

In conclusion, I gratefully acknowledge my indebtedness to Dr. F. Murgatroyd of the Liverpool School of Tropical Medicine for his invaluable advice and interest, and also to Dr. E. F. Reeve for permission to publish this case.

Temperature Chart of Malaria, showing Rigor occurring after Administration of Quinine. Rigors occurring at Daily Intervals (with the exception of the fourth day).



A = parasites in blood film. B = parasites frequent in blood film.
C = quinine given. D = total of five doses of quinine given.

PREVENTION OF INTRACRANIAL INJURIES OF THE NEWBORN

BY

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During a period of six months I performed necropsies on 107 consecutive natal and neo-natal deaths at the above hospital. Excluding fourteen of these cases which had perforations performed for varying causes, forty-three of the remaining ninety-three cases were found to have intracranial lesions—that is, in 46 per cent. of all these consecutive deaths there were intracranial injuries. The lesions present were lacerations of the tentorium cerebelli in most cases, and usually associated with haemorrhages or oedema of adjacent parts; occasionally the falx cerebri was also lacerated.

There is not the slightest doubt that a large proportion of infants who survive have intracranial injuries; the greater number of these will have no more than small tears of the tentorium and oedema of adjacent parts, but others may survive where relatively large haemorrhages have occurred, and I have seen a great amount of blood removed in two cases where I performed repeated bi-daily cisternal punctures for four days and the infants at the time of discharge appeared to be normal. Although the presence of these injuries in the newborn has been recognized as far back as 1829, their tremendous importance as regards infantile mortality has not been stressed until the last few years, and even now some modern obstetrical textbooks do not seem to appreciate their great importance.

The purpose of this short article is not to determine the treatment of these injuries, but to find methods by which these injuries may be prevented.

Mechanical Causes of Injury

Numerous theories have been brought forward as to the method of production of these injuries, but it is more commonly agreed now that a mechanical factor is the direct cause of the injury, due to alteration in shape and compression of the foetal head. This is accompanied by stretching of the supportive apparatus, particularly the tentorium cerebelli. This mechanical effect of alteration in shape and compression is most marked in cases where there is excessive moulding, or where the change in shape of the foetal skull is accomplished too quickly by an operative delivery.

If there is excessive moulding, the effect of lateral compression is to raise the vault of the cranium, so increasing the strain on the falx and tentorium. The prevention of this excessive moulding can be carried out only by efficient ante-natal care in watching for disproportion between size of foetal head compared to maternal pelvis, and performing induction of labour before term or, if necessary, Caesarean section at term. This is one big factor in preventing intracranial injuries.

Breech Deliveries

Another extremely common cause of these injuries is in extraction of the after-coming head in breech deliveries. Bourne in 1922 found that breech delivery is ten times more likely to give rise to cerebral injuries as compared with vertex deliveries. In my series every breech mortality (six) had, at necropsy, intracranial injuries. To prevent these injuries in breech deliveries it is most important that the still unmodelled head should not be drawn violently through the pelvis and so cause sudden compression and, in this way, rapid stretching of the cranial supports. Also the routine procedure of performing a

lateral episiotomy in every case of breech delivery a great help in preventing the sudden application of, or then sudden release of, compression on the foetal head due to an unstretched perineum.

Again, in breech deliveries care should be exercised in applying suprapubic pressure on the after-coming head, especially as this pressure is applied to the foetal skin in a vertical direction, and so is more liable to produce stretching of the cranial supports. Some obstetricians favour the routine application of forceps on the after-coming head as opposed to applying any suprapubic pressure on the head, thus avoiding pressure in a more dangerous direction.

Misuse of Forceps

As regards the use of forceps, these alone should not increase the risk of intracranial injuries unless associated with other factors as marked disproportion, or the wrong application of forceps, especially a fronto-occipital application. If forceps are being used, it is advisable to use axis traction, even in low forceps deliveries, to avoid premature extension of the head, which causes pressure of the occiput against the pubic arch with increased possibilities of intracranial injuries.

An unexpected cause of injury may result from the use of forceps of wrong size. One well-known firm sent me a new pair of axis traction forceps with the wide diameter between the blades of exactly $2\frac{1}{2}$ inches instead of the usual $3\frac{1}{2}$ inches. Pulling on the forceps with this ridiculously small diameter would certainly cause intracranial injury, so it is a wise plan to check the separation of the blades from time to time, and also the shape of them, as after much use it is surprising how they can alter their correct shape.

Other Causes of Intracranial Injury

Another common cause of intracranial injury is the use of pituitrin in a case with incompletely dilated cervix or with a rigid perineum. The use of pituitrin in these cases may quickly force the foetal head through the obstruction, with resultant cranial injury. Again, precipitate labours are a frequent cause of similar damage as the sudden compression followed by sudden release results in injury.

In premature labours one must be exceedingly careful in the delivery of these cases, as premature infants are notoriously prone to develop intracranial injuries, no doubt due to abnormal fragility of the vessel walls, and of the dura, etc., due to incomplete development of fibres of dura.

In delivering a normal case in the interval between uterine contractions, with the head on the perineum one must be careful not to push too forcibly the foetal forehead against the pubic arch by a finger on the perineum or in the rectum, as such pressure may be enough especially in a premature infant, to injure the supportive apparatus.

An indirect method in the prevention of these injuries is applicable in those cases with an irregularity or change in rate of foetal heart sounds. Usually these changes are due to compression on the foetal skull, and the treatment is not to apply forceps and deliver as rapidly as possible, and so increase the likelihood of intracranial injury, but to use chloroform, which will lessen the uterine contractions.

Efforts at Resuscitation

The last important point in the prevention of these injuries, or in this case I should say in preventing the increase of intracranial damage, is the manipulation during resuscitation. It is most important to remember

that practically all asphyxiated newborn infants which do not respond to treatment within the first minute or two are suffering from intracranial injuries, and that the older and violent methods of resuscitation, if used, will further increase these injuries by causing increased haemorrhage. If an asphyxiated infant is going to respond to any form of resuscitation, I am sure no more treatment is needed than to remove any mucus from the throat, and to encourage attempts at respiration by gentle traction on the tongue with tongue forceps at the rate of about twenty pulls per minute, together with the injection of a cardio-respiratory stimulant such as coramine or icorol.

Should the infant attempt to breathe, carbon dioxide is here of some use. The older methods of throwing the child from one hand to the other or of violently flexing its body should never be allowed to be used on an asphyxiated newborn infant, as all such infants should be considered as having potential brain injuries, and small haemorrhages may soon prove fatal if unnecessarily aggravated by vigorous manipulations during resuscitation.

RECURRENT VOMITING ATTACKS IN CHILDHOOD

WITH SPECIAL REFERENCE TO ALLERGIC FACTORS*

BY

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Recurrent attacks of vomiting, or so-called "bilious attacks," occur with sufficient frequency in childhood to be of real importance in clinical practice. Though not usually causing prolonged illness, they are often most inconvenient to the children concerned on account of their repeated interference with school life, while they may at times be severe enough to necessitate admission to hospital.

Wyllie and Schlesinger¹ have recently discussed a group of cases of this type under the heading of "The Periodic Group of Disorders in Childhood." Such a title has certain advantages, the chief being the emphasis it lays upon the tendency of these attacks to recur. "Cyclic vomiting" is a term often used for the attacks, but this rather implies a regularly recurring cycle, and any absolutely regular periodicity of the attacks is actually very rare, if indeed it ever does occur. Again, these children are often said to be suffering from attacks of acidosis. This is mentioned in order to draw attention to the fact that there is usually no justification whatever for such a diagnosis, although acidosis may accompany severe attacks of vomiting. It is of course well known that at the time of attacks these children do suffer from varying grades of ketosis. The term "ketosis" is, however, by no means synonymous with acidosis, and in fact true acidosis is not usually met with in childhood except as a relatively rare accompaniment of such diseases as diabetes, nephritis, and acute gastro-enteritis.

The aetiology of the recurrent attacks of vomiting under discussion is by no means clear. They are probably a manifestation of some metabolic disturbance, and Josephs² has shown that they may be associated with a hypoglycaemia. This being so, the accompanying ketosis is therefore explicable on the basis of an insufficient supply of carbohydrates being available for the proper metabolizing of fats. In these patients the clinical improvement effected by restricting fats and giving glucose is evidence favouring this explanation. It should, however, be mentioned that not all cases show a hypoglycaemia, and that

the theory of hypoglycaemia as an important aetiological factor has not been definitely established. Whichever is primary, the ketosis or the vomiting, the fact remains that between attacks these children are generally healthy, with, so far as one can judge, no evidence of ketosis or of any other metabolic disturbance, and one is still ignorant as to the exact factor which initiates an attack. It has been shown that some at least of the children can tolerate a definite ketosis produced artificially without an attack being precipitated.

It is recognized that gastro-intestinal symptoms may be a manifestation of allergy, and Rowe³ regards gastro-intestinal food allergy as occurring most frequently in infancy and childhood. It appears quite possible, therefore, that allergy may play a part in the production of these recurrent attacks of vomiting, and that sensitivity to some foodstuff may be a determining factor in their onset. With this aspect of the problem particularly in view, the following study was undertaken.

Investigation of Forty Cases

So far as possible, all children were selected for study who came to my out-patient sessions in the Children's Department of the London Hospital between January, 1932, and August, 1933, suffering from recurrent vomiting attacks. Personal and family histories were investigated, all significant data in regard to clinical findings were recorded, various investigations were carried out, treatment was prescribed, and progress was followed in each case. An attempt was then made to correlate the findings in the entire series, and to draw conclusions therefrom. As in every case reliance had to be placed on the history obtained from the mother and upon her account of subsequent progress, it was obvious that accuracy in certain of the data was open to question. This, however, is invariably the case in any clinical study of this nature involving observation of out-patients.

The series here presented consists of forty cases; as is inevitable, certain other patients who were originally included defaulted before adequate observations could be carried out, and had therefore to be omitted. Of this series all the children attended quite regularly except three, each of whom for some time failed to come up as requested. The maximum period of observation was twenty-seven months and the minimum five months. The average period of attendance during which observations were made was sixteen and a half months; only two children were observed for less than six months. Reports of progress were subsequently obtained in regard to four of the children after attendance had lapsed.

Character of Attacks

It soon became apparent that there was no absolute uniformity in the duration of individual attacks, and, generally speaking, no regular periodicity in their occurrence. Often a child who was, at the time of first attendance, said to have an attack every two or three weeks, was found thereafter to have such attacks only at very infrequent intervals. Even in the history given by the mothers any account of regularity of attacks was infrequent. It is really impossible to make any useful analysis of the frequency or duration of these attacks. In most cases the vomiting was accompanied by headache, which was sometimes the most outstanding feature of the attack. This will be discussed later.

The average age at the time the children were first examined was just under seven and a half years. In twelve cases the attacks were said to have commenced before the age of three years, in thirteen cases the onset apparently occurred between the ages of three and five years, and in fifteen cases between the ages of five and ten years.

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Precipitating Cause

In twenty-three of the cases the mother stated that she had no idea what initiated the attacks; in the remaining seventeen cases various factors, such as fatty foods or excitement, for example, were suspected to be associated with the onset of an attack. From these histories, however, one is forced to take the view that any exact knowledge of what precipitates an attack must be uncommon. Excess of fats does, however, appear to be a factor in certain cases, and some of the children in the group observed have a dislike, possibly physiological, of fatty foods. Constipation may well be an associated factor, but discussion of this is apt to be misleading on account of the difficulty of obtaining a reliable history in this respect. It should be recognized that the criteria among hospital out-patients as to normal and abnormal actions of the bowels are extraordinarily variable and frequently fantastic.

Allergic History

The allergic history is a matter of some importance, in view of the fact that it had been considered that the attacks themselves might be of an allergic nature. Of the forty children, four gave a personal history, present or past, of some manifestation usually regarded as allergic—namely, asthma (one case) and urticaria (three cases). In eighteen cases—that is, 45 per cent.—a family history of allergy was obtained, this being very pronounced in five. As it seemed possible that such a proportion of family histories of allergic manifestations might well be obtained in any similar group of children, a control series was investigated. Forty children attending hospital as out-patients, who gave no history at all of bilious attacks or headaches, were taken without selection. None of these gave a personal history of any allergic manifestation. A family history of allergy was obtained in only ten—that is, 25 per cent.—of this control group, and in only three of these was such family history really pronounced. There is therefore a much higher incidence—almost double—of history of allergic manifestations in the families of the children suffering from vomiting attacks than in those of the control series of cases.

Skin Tests, Blood Counts, and Gastric Acidity Tests

Each child in the series was skin-tested with extracts of all the articles of food usually regarded as most commonly responsible for producing allergic phenomena. The extracts used for testing were put up by Messrs. Duncan, Flockhart and Co., and consisted of: wheat, oatmeal, rice, potato, egg white, whole cow's milk, cocoa, beef, pig group (pork, bacon, lard), crustacea (group extract), and fish group (cod, herring, haddock, whiting, plaice, mackerel). A control solution was also employed in carrying out the test. Before applying the test the arm was in every case gently washed over with spirit. The results were very disappointing. In only one case was a slight but definite positive reaction obtained, this being to egg; in this case the mother had stated, on first bringing the child to hospital, that no food appeared to upset her. In five other instances certain reactions were regarded as possibly positive, but clear-cut positive reactions were not obtained, except in the one case mentioned. Skin testing in these children proved, therefore, to be of no assistance. It is, however, recognized that a negative skin test does not necessarily mean that a child is not allergic to the substance tested, and Rowe³ states that skin reactions are infrequently obtained in cases of gastro-intestinal allergy.

Blood counts were carried out in all except one of the cases, because of the fact that eosinophilia is generally accepted as being an accompaniment of the allergic state. No child in the series showed a conclusive eosinophilia,

but in seven cases the eosinophil count could at some time be regarded as slightly above normal, amounting to between 5 and 9 per cent.

It has been shown that in certain allergic conditions there exists a hypochlorhydria and a tendency towards alkalosis (Bray,⁴ Beckman⁵). With this in view test meals were carried out on thirteen of the children under investigation, who were admitted to the ward for this purpose. These cases were selected as being the most likely to yield significant results in view of a definite associated family history of an allergic nature. The meal given was the ordinary Ewald meal, on an empty stomach. Possibly different results for secretion of acid might have been obtained if histamine had previously been injected, or if fractional test meals had been employed, as in Bray's⁴ series of cases. At the same time, since a control series was treated in exactly similar fashion, it seems justifiable to make a comparison between the results of a simple Ewald meal in the two groups.

In seven of the cases investigated free hydrochloric acid was found to be absent. In two it amounted to 0.04 per cent., in one to 0.05 per cent., in one to 0.07 per cent., in one to 0.08 per cent., and in one to 0.17 per cent. The percentages given are those of mineral acid calculated as HCl. Taking the normal values of total acidity as lying between 40 and 60 (acidity of 100 c.c.m. test meal in terms of cubic centimetres of decinormal acid) two cases gave normal and ten subnormal values, while in one a high total acidity of .77 was found. A control series of test meals was carried out on twenty children of the same class, who were in hospital convalescing from various medical conditions not of a digestive nature. In this series twelve had a complete absence of free HCl, and in four others the free HCl was below 0.1 per cent.; six gave normal and thirteen subnormal values for total acidity, while in one a high total acidity of .85 was found. One cannot, therefore, from consideration of this series, argue that the absence of free HCl, or low total acidity, in children suffering from recurrent vomiting is of any particular significance.

General Physical Signs

Several children in the series had some entirely extraneous disability, such as a rheumatic cardiac lesion. Excluding such findings there were no abnormal physical signs except what was regarded as a raised blood pressure, which was found to be present in eight of the cases under review. Raised blood pressure as a feature of some cases of the type under discussion has already been observed by Wyllie and Schlesinger.¹ Its significance is not clear, but it may be noted, as they point out, that adults with essential hyperpiesia not infrequently give a history of migraine in early life. In thirty-seven of the cases whose urines were tested between attacks by Gerhardt's ferric chloride test, no diacetic acid was found: this is what one would expect.

Association of Headache with Vomiting

Special mention must be made of the association of headaches with these attacks of vomiting. Ophthalmic examinations to exclude errors of refraction were carried out in all cases of severe persistent headache. In no case did it appear that such errors were responsible for the attacks. It is well recognized that headache is usual at the time of such attacks, but in a number of cases the type of headache is such as to justify one in classing it as definitely migrainous. Again, certain cases under observation, which came for examination primarily because of symptoms typical of migraine (severe recurrent prostrating headache, sometimes accompanied by visual phenomena), complained of vomiting at the time of the attacks. There seems to be so close an association between these two

symptom-complexes that it is questionable whether in a number of cases they can be accurately separated. It is probable, therefore, that severe recurrent bilious attacks in childhood should be regarded as atypical manifestations of migraine.

It may be mentioned in this connexion that various observers regard migraine as being due to food allergy. Balyeat and Rinkel⁶ are of the opinion that in about 30 per cent. of all patients with migraine, symptoms have developed during the first decade of life, and that many cases of so-called cyclic vomiting may actually be cases of migraine in childhood.

Treatment and Progress

These are being discussed under one heading on account of their interrelationship.

The general lines of treatment adopted may be stated to consist essentially of:

1. The ordering of a low fat diet with liberal carbohydrates. The mother received detailed instructions regarding the types of foodstuffs to be given.

2. The prescribing of luminal, to be given at the time of attacks of severe headache, to children prominently exhibiting this symptom.

In certain cases in which a particular article of food was regarded as a possible causative factor in precipitating an attack, this was eliminated from the diet for a short period. This did not appear to make any difference, nor, in fact, did the giving of such foods seem to cause any particular upset.

One is faced with the greatest difficulty in assessing the effects of treatment and the progress of the children because of the impossibility, already mentioned, of obtaining from the mothers accounts that can be regarded as strictly reliable. Recognizing these difficulties, which are inherent in any study of this type, it is possible to make only the broadest assessment of progress in relation to treatment. Three children were not given any special dietary instructions at all. Of the remaining thirty-seven the patients were dieted for periods ranging from six weeks to twenty-one months, the average duration of the dieting being nine and a half months. Extra sugar as well as very restricted fat was ordered in most cases at the outset; later it was usual only to restrict the fats. Apart from six of the children who had no further attacks from the time of first coming under observation, there remain thirty-four cases for consideration. Of these, twenty-seven improved under dietetic treatment, and the improvement was maintained subsequently when an ordinary diet was allowed. In seventeen of these patients the improvement was regarded as very marked. Three failed to show improvement, and in two cases the improvement was doubtful. Two patients improved under dietary treatment, but regressed when given ordinary diet without fat restriction.

However great the improvement may have been, and even if no attacks were observed while the child was attending, the time of observation hardly permits one to speak of an absolute cure having been effected. There seems, however, to be little doubt that, when children suffering from recurrent vomiting attacks are ordered a diet in which the fats are much restricted, a general improvement is usually effected, and this appears to be lasting.

Summary and Conclusions

A study was made of a series of forty children suffering from recurrent attacks of vomiting, and in particular evidence was sought as to whether or not the attacks were associated with an allergic state.

There was found to be a definite family history of some allergic disorder in a considerably greater proportion of the children in this series than in a second series of

children taken as a control. Apart from this no definite evidence of allergy was found. Generally speaking, skin tests failed to reveal sensitivity to any of the common foodstuffs.

The association in childhood of recurrent vomiting attacks with migraine is emphasized and discussed. Severe vomiting attacks in childhood are probably atypical manifestations of migraine.

Treatment consisted essentially of restriction of fats in the diet. From the generally favourable progress made by these children it would appear that good results may be expected from this line of treatment in the majority of cases, and that the improvement effected is likely to continue after a normal diet has been resumed.

I should like to thank Dr. Panton and Professor Marrack, in whose departments certain of the investigations were carried out, Dr. W. G. Bray for helpful advice, and the Research Committee of the London Hospital, who kindly assisted me with a grant.

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NEW CASES OF WAR BLINDNESS DUE TO MUSTARD GAS

BY

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Surprise is often expressed by the lay public, and sometimes even in medical circles, that men are still being admitted to the benefits of St. Dunstan's organization as being blinded from the results of the war. That there are many men with damage to the brain from bullet wounds, which years later have resulted in injury to the brain tissue from the effects of scarring and traction, is readily understandable; that these changes cause damage to the optic paths and optic centres, and result in blindness, more or less, is also quickly appreciated when an explanation is called for. But such explanations are comparatively rarely required, because the general public thinks that, since the war ended sixteen years ago, any after-effect of head wounds in the way of blindness would have shown itself much earlier.

Numbers of clear, well-authenticated cases of this nature are on record. In this article, however, it is not intended to touch upon these, but upon a variety of war injury which causes an immense amount of untold suffering, years of treatment, and, unfortunately, progressive loss of already much impaired vision, and the occasional loss of eyes themselves. I refer to the men who were badly gassed by shell and cloud mustard gas, and whose conjunctivae, particularly the lower fornices, are as irritable and inflamed to-day as they were after the acute effects had more or less passed off in 1917, 1918, and 1919. Very considerable oedema of the conjunctiva and lids first occurred, which slowly settled down, leaving a chronic conjunctivitis of such nature and severity that one can but conclude that some change in the tissues has taken place resulting in the loss of some lubricating secretion present in the normal eyelids and conjunctivae. This change would appear to be the total destruction of the mucin-secreting glands, a change which seems to have taken place in those distressing cases of essential shrinking of the conjunctiva and xerophthalmia.

In the latter cases, however, corneal ulceration and definite losses of corneal tissue are not a prominent feature, whereas in the gas cases, corneal destruction—thinning, ulceration, and bulging of the weakened substantia propria of the cornea—itsself is an ever-present symptom, especially the bulging and the giving way of the cornea.

I did not come across these changes in the early days of the use of gas, when lachrymatory gas, chlorine, bromine, and supposedly hydrocyanic volatiles were used, and I saw and attended the greater number of the gas cases arising during the first and second attacks in the Ypres sector. Uncomfortable and irritating as lachrymatory gas was, the effect upon the eyes and conjunctiva soon passed off, as did that of chlorine, but this latter had fatal effects upon chests, lungs, and bronchi. During these gas attacks there were no protective masks for the eyes, the only available protection being pads of gamgee tissue with tapes, the pad being dipped in thiosulphate of soda such as was then used in the Vermorel sprayers.

In addition to the number of cases in which the men's eyes, previously sound and normal, were directly and acutely burnt by mustard gas, and as a result the men were partly blinded, there have been many cases of old interstitial keratitis, in which the previous disability has been lighted up by the intense irritation and destruction of tissue resulting from mustard gas burning; in some instances both eyes have become affected, although the interstitial keratitis first appeared only in one eye. While it is true that the original interstitial keratitis was not in any sense a war injury, the attack following mustard gas burning was, and should be so considered. There are also cases in which, after extreme burning, some of the mustard gas became absorbed and brought about deeper changes in the eyes, such as degeneration of the retina, presumably following an inflammatory retinitis, which showed itself primarily in night-blindness. (An example of this is included later in this paper.) Such cases have been known to follow heavy doses of phosgene gas, which causes very few local and immediate symptoms, but deadly after-effects; not many have followed mustard gas burning.

Case Notes

The men in the following cases have all come to St. Dunstan's for admission or assistance owing to their wretchedly uncomfortable eye conditions, with progressive deterioration of vision in spite of continuous treatment. Most have lost their jobs through failing vision, and some are unemployable because of the appearance of their eyes, the uncertainty of being able to carry out any work without continual breakdowns for treatment, and, sad to relate, the objection of fellow workers. They have all come up within the last eighteen months.

Case 1.—The patient, aged 38, was seen on July 12th, 1934. He was wounded on the Somme, was in hospital six months, and was then sent back to a Pioneer battalion. He was gassed in 1918 (mustard gas), and, as a result, spent nine months in hospital. His chest was affected. He began to lose his sight after being gassed, and it was for this that his pension was granted. Vision R., largest letter at one foot indefinitely. Vision L., largest letter at six inches indefinitely. Field of vision very contracted. This man was a sniper for two years after going on foreign service. Fundus shows marked retinal degeneration and pigmentation. Cornea and conjunctiva not markedly affected.

Case 2.—Patient, aged 50, seen in April, 1933. As a result of mustard gas poisoning at St. Quentin in August, 1918, he was invalided out, and in hospital from August to November. His eyes have given trouble ever since, and broke down finally in February, 1929. He has been under continuous treatment since he was gassed. Left eyelids have been stitched up since July 15th, 1932, and are still closed. Right partly stitched in September, 1932, and remains so. Vision R. less than 1/60; vision L. still less. Both conjunctivae, when

seen, were considerably congested; right, roughened and discharging; left, cornea still ulcerated. The man is quite unable to get work or to perform it, and is being trained as a blind man. He is under treatment at the Ministry of Pensions Hospital.

Case 3.—This patient, aged 44, who was seen on June 7th, 1934, was gassed by shell at Ypres on September 27th, 1917. He spent seven months in hospital, and has been under treatment ever since. Vision R., 3/60 just; vision L., largest letter at one foot. Right: corneal nebula, opacities on lens capsule, signs of iritis; tension normal, no view of fundus. Left: scarred cornea, raised patches with clear cornea between; eye tender and cannot stand daylight. Eyes and vision have deteriorated lately. He left the Ministry of Pensions Hospital, where he had been an in-patient, just before Whitsuntide of this year. He has been under treatment ever since being gassed, and had to give up his own business on January 26th, 1934. His chest is also giving trouble.

Case 4.—The patient, aged 37, was seen on June 7th, 1934. He was gassed near Albert in 1918, and was in hospital as a result for six weeks, during which time his eyes were completely closed, and he was unable to open them for two weeks. Ulceration continued. Nebulae in lower half of right, and a very dense leucoma down and out in lower half of left cornea. Vision R., 4/60 indefinitely; L., 1/60. Eyes have been inflamed again this year. In this case the gas shell burst in the entrance of a tunnel, in which the man was working a signalling lamp; he thus had the full benefit of the mustard fumes.

Case 5.—A gunner, aged 44, seen in February, 1931, was gassed at Armentières in 1918. Right eye: no perception of light; tension minus; cornea opaque and disintegrated in lower two-thirds, bulging and perforated; anterior chamber collapsed. Iris adherent to wound. Left eye: perception of light, but cannot count fingers. Lower half of cornea opaque and roughened, lens capsule opaque, pupil bound down. This man's body, wherever there was moisture—armpits, thighs, etc.—also burned at the same time.

Case 6.—This patient, who was gassed in France in 1918, was seen on July 26th, 1934. He had never had any comfort with his eyes since he was gassed, nor did he do any further service. His eyes very badly ulcerated; left stitched up for a year. He never goes longer than six weeks without having exacerbation, and has extensive calcareous deposits in both corneae. His own doctor has treated him for his eyes for nine years. Vision R., 2/60 barely; L. less than this. Both corneae hazy, due to dense infiltration masking the whole cornea.

Case 7.—Patient seen on July 26th, 1934. He was gassed (cloud gas) at Villars in 1918, and, as a result, was in hospital from May to December, 1918. Both corneae badly burned; nebulae, calcareous film right; has been under treatment ever since being gassed, and was in a Ministry of Pensions Hospital from 1930 to 1931. Right vision: sees light only—or thinks he does; left vision: 1/60 excentrically with head held very much on one side. Vision is still deteriorating.

These authenticated cases are sufficient to prove that much acute suffering is still being uncomplainingly borne, and all such cases will eventually be cared for by St. Dunstan's organization, and account for the recent admissions.

The first number has appeared of a new journal, *Acta Cancrologica*, published in Budapest under the general editorship of Dr. Paul Geréb. The articles are printed in English or French or German, at the author's choice, each being followed by a summary in all three languages. Publication will continue at intervals of one and two months, the annual set of twelve single or six double copies being bound in one volume. The English agents are Messrs. H. K. Lewis and Co. Ltd., 136, Gower Street, W.C.1, who will be pleased to send particulars of the journal to inquirers. The subscription is £4 for one year, and £2 2s. 6d. for six months.

Clinical Memoranda

NON-FATAL LIGHTNING BURNS

It has long been a canon of surgical practice that "if one-half the superficial area of the body of an adult is burnt, no matter of what degree the burn is, or one-third of the body of a child, the burn will end fatally."¹ Again, "involvement of one-third of the skin surface is a very grave matter and, if this includes the abdomen, the outlook is practically hopeless."² The following case, which occurred in August, 1933, is recorded both for the interesting clinical features and for the unusual satisfactory result.

CASE RECORD

One evening, during a thunderstorm, two boys, aged 12 and 7, were about to enter a cowshed in order to milk several cows when the building was struck by lightning. The cow nearest to the door was killed instantly. (Subsequent examination by a veterinary surgeon showed no detectable abnormality.) The boys were thrown down and rendered unconscious.

The younger of the two was hurled several yards away from his brother. Apart from shock his injuries were slight. A certain degree of cerebral irritation supervened the following day; after a few days' complete rest in bed he made an uninterrupted recovery. It is interesting to note that, of the two, the younger boy showed a far greater degree of psychological sequelae, in the form of "terror-dreams," and during a thunderstorm all the signs of extreme fear, including, on a recent occasion, a temporary paresis of both legs and incontinence of urine lasting twenty-four hours.

The older boy, who was carrying a galvanized bucket in his left hand, was severely burnt. It would appear that the lightning "earthed" itself through the bucket. The burns extended all over the back, from the nape of the neck to the fold of the nates on both sides; down the left leg to the ankle; over the front of the thorax from the suprasternal notch to the xiphisternum, extending across the abdomen from the right iliac crest to become continuous with those on the back. The only free portion of the trunk was an area from the right axilla, two inches broad, down to the lower border of the ribs, and broadening an inch to the level of the umbilicus.

The left arm was charred black from the shoulder to the elbow; the muscle fibres of the biceps could be seen clearly. The fingers of the left hand, on the dorsal surface, were scarcely affected; the palmar surface was burnt to the second degree. In the earlier stages of recovery it appeared as if a permanent state of contraction of the fingers would result, independently of the healing of the flesh. Subsequent events have shown that this was probably a functional contracture of psychological origin and not due to any local or neurological damage. The head, right arm, and leg escaped injury. It was in the right hand that he had held a wooden milking-stool. The latter was found, without its legs, at the other side of the shed.

The patient was seen about twenty minutes after the accident. He was then unconscious, breathing stertorously, and the skin cold and clammy. The pupils were dilated. He had been totally incontinent. He was practically naked; the cuffs of his shirt, held by metal buttons (which were twisted), were all that remained of his upper garments. There were no arborescent markings on the skin such as have been described by some observers.

RESPONSE TO TREATMENT

Consciousness returned in three to four hours. The wounds were cleansed gently by allowing a solution of 1 in 1,000 mercury perchloride to flow over the surface. Later, these were sprayed with colloidal tannic acid solution (2½ per cent.). This was repeated at hourly intervals. Because of the ex-

tensive nature of the wounds, a 5 per cent. tannic acid ointment dressing on broad sheets of lint was substituted the next day, and changed daily during the following three weeks. Thereafter the intervals between changing the dressing were gradually increased. The last "black crust" separated at the end of the eighth week. From this time a 1 in 1,000 solution of acriflavine emulsion replaced the tannic acid dressing. There was very little sepsis except from the wounds on the abdomen. The temperature rose to 102° on the second day, and remained above normal constantly during the first three weeks. The pulse rate gradually increased out of proportion to the temperature and the heart-muscle sounds became progressively of poorer quality, probably due to a degree of myocarditis. A Nativelle granule grain 1/600 was given morning and evening for three months with no ill effects. The rhythm remained regular throughout.

No morphine was given during the period of shock. Contrary to the usual advice, strychnine sulphate grain 1/100 was given every four hours for the first week. Glucose drinks and glucose salines per rectum were administered at four-hourly intervals during the period of shock. On no occasion was it necessary to use an anaesthetic to allay the pain during the dressing of the wounds.

Permission for skin grafting was not obtainable. The only stimulating treatment available for the wounds was that afforded by the actual rays of the sun, and the scarlet red ointment of the *National Formulary*. The effect of the ointment was remarkable in producing a rapid epithelialization when it was applied around the circumference of the wounds and covered by lint soaked liberally in acriflavine emulsion.

The total time taken for complete healing was ten months. It is characteristic of electric burns that they heal slowly. Apart from those mentioned above there were no complications, and recovery has been uneventful. "Halimalt" and a simple mixture of glycerophosphates were given during convalescence.

The ultimate results are, on the whole, satisfactory. The boy now has the complete use of his hands, and, apart from a certain amount of contracture at the left shoulder region, there is every likelihood that, in time, he will become a useful agricultural worker.

E. GRAHAM ELWELL, M.B., Ch.B.

High Bickington, Devon.

AN UNUSUAL LARYNGEAL FOREIGN BODY

The following instance of impaction of a foreign body in the larynx is, I think, of sufficient interest to be worth recording.

A child, aged 10 years, was admitted to hospital an hour after having swallowed an unusual type of foreign body—namely, the "eye" component of a "hook and eye" appliance for joining dress material. The child had apparently been playing with the foreign body, when it was noticed to have a sudden spasm of choking and become hoarse. An x-ray revealed the foreign body at about the level of the pharyngeal pyriform sinuses, a little to the left of the middle line, with its longitudinal axis in the sagittal plane, and the "eye" component directed posteriorly. Direct laryngoscopy two hours later, under general anaesthesia, revealed the foreign body lying as to one-half over the anterior part of the left vocal cord and the remaining half below the left cord in the subglottic region, with the "eye" of the appliance directed towards the middle line. The slit in the horizontal limb had passed over the free margin of the true cord, so that the foreign body was encircling the true cord. When the position and relation of the foreign body had been appreciated, extraction with the forceps through the laryngoscope presented no difficulty. The foreign body was grasped by the forceps at the upper limb of the "eye," and gentle upper traction applied.

Manchester.

F. HOLT DIGGLE, F.R.C.S.

¹ Howard: *The Practice of Surgery*, fourth edition, p. 171.

² Souttar: *The Art of Surgery*, second edition, p. 97.

Reviews

BRAIN ABSCESS

Elaboration of the Jacksonian prize essay for 1926 has resulted in a volume on *Abscess of the Brain*, by Mr. E. MILES ATKINSON.¹ The monograph is based upon twenty-three cases of brain abscess treated or personally observed by the author. All save one were of aural origin, and with one exception all were temporo-sphenoidal or cerebellar in situation. The series is admittedly rather small, and to supplement this and provide a complement of cases of different origin the author has drawn upon a wide field of literature, and provides an excellent bibliography. The anatomy and pathology of brain abscess are dealt with admirably in a comprehensive fashion. The author's own researches make him of the opinion that the spread of infection into the brain substance is by the perivascular route in a great majority of cases and less frequently by the process of retrograde thrombophlebitis, which is more favoured by transatlantic writers.

A full account of the general and local signs of brain abscess is given. Mr. Atkinson rightly emphasizes the necessity of repeated examination for the detection of transient localizing signs, and stresses the danger, which ought to be more widely appreciated, of allowing more than one or two cubic centimetres of cerebro-spinal fluid to escape on performing diagnostic lumbar puncture. But it is doubtful if the cerebro-spinal fluid can be estimated even approximately without a manometer, as he maintains, and surely the manometer is the best check against too much loss of fluid. His statement that tests of the visual fields have proved of no value to him will surely be amended in the future.

Mr. Atkinson's opinion that operation, or at least exploratory puncture, should be performed just as soon as the diagnosis of brain abscess is made, whether localizing symptoms are present or absent, will, as he expects, be contested by many. In spite of his agreement with others that Macewen's unsurpassed results were probably due to the long-standing nature of his cases before operation, and in spite of several recent papers advocating delay as long as possible, he maintains that the risks of such procedure are too great. It is difficult to understand such compelling dogmatism based on limited experience. The various methods of approach and drainage used by different writers—*quot homines, tot sententiae*—are fully dealt with. The author himself favours a double tube for drainage and irrigation.

The monograph is well produced and illustrated. If it lacks conciseness, that is probably due to the zeal of the author for his own personal contentions making his style a little reiterative.

ORTHOPAEDIC SURGERY

Dr. GEORG HOHMANN's book on Foot and Leg, their Disorders and the Treatment of Them, appeared first in 1923. A second and enlarged edition, with many more illustrations, has now been published.² The title "Foot and Leg" suggests, to English eyes and ears, that the book deals with the surgery of the whole lower extremity, but that is not in fact the case. Dr. Hohmann is director of the University Orthopaedic Clinic of Frankfurt-on-Main, and he confines himself in this book almost entirely to deformities and to orthopaedic methods of treatment. He leaves out such maladies as tuberculous joint disease and

osteomyelitis. While he describes and discusses various congenital deformities he omits club-foot, but includes, on principles of selection which seem obscure, chronic varicose ulcer of the leg.

In his preface the author points out that during the past decade there have been notable advances in the field of orthopaedic surgery, and that this volume is not simply a revision and amplification of the first edition, but an entirely new work, the outcome of thirty years' work on the foot and experience of thousands of patients with foot maladies. Several new chapters have been added on maldevelopment of the foot and toes, which are of practical importance, such as those on the processus trochlearis, on the sesamoid bones, and athletic injuries, especially those of the joints of the foot and ankle. The author is a follower of Max Lange, whose monograph on myogelosis, or muscle induration, we noticed nearly four years ago. (See *British Medical Journal*, 1931, ii, 536.) The book is written, he says, for the orthopaedic specialist as well as for the general practitioner.

Within the limitations aforementioned *Fuss und Bein* should be found useful to those seeking information about deformities of the feet. The numerous illustrations are clear and informative. The value of the book as a work of reference is seriously diminished by the absence of an index, which is the more felt because the table of contents is very laconic.

SERUM DIAGNOSIS OF GONORRHOEA

Serum Reactions in Gonorrhoea,³ by BERTRAND RÈME, is a valuable addition to medical literature for a number of reasons. It gives a historical review of the evolution of the complement-fixation reaction in gonorrhoea from its commencement in 1906; the technique, taking reagent by reagent; its interpretation, sensitiveness, and specificity; and finally a most comprehensive bibliography.

Müller and Oppenheim are given the credit of being the first to apply, in 1906, the principles of Wassermann and Bruck to the serology of gonorrhoea. From that date numerous workers—all mentioned by name—have gradually evolved a test which to-day may be considered to be as valuable in gonorrhoea as the Wassermann reaction is in syphilis. A long and interesting section on the history is followed by one on technique; as regards the patient's serum, complement, and haemolytic system most workers are in general agreement—it is over the question of antigen that methods differ widely. In general, antigens may be divided roughly into those treated by physical and those by chemical means. The former include emulsions and filtrates, whilst the latter comprise those made by extraction with alcohol or ether or solution in soda or antiformin. A comprehensive table is given of the various types of antigen employed, together with the names of the workers who use them. As regards specificity, the question of cross-fixation with the meningococcus and *Micrococcus catarrhalis* arises. There seems to be a general consensus of opinion that this does take place; with the former it is not usually of much importance, since the differential diagnosis is easy, but in the case of the latter difficulties may arise. It appears possible that the solution may lie in testing the serum in question against antigens made from each kind of organism. Much more work, however, requires to be done on this question. The boggy of cross-fixation with a syphilitic serum is finally laid—it should never occur with a good technique.

The complement-fixation reaction will stand comparison with other laboratory methods in the diagnosis of gonorrhoea: excluding early acute cases, far more positive results are obtained with it than with films or cultures.

³ *La Séro-réaction Blennorragique*. Par Bertrand Rème. Paris: Masson et Cie. 1934. (Pp. 179. 30 fr.)

¹ *Abscess of the Brain: Its Pathology, Diagnosis and Treatment*. By E. Miles Atkinson, M.B., B.S., F.R.C.S. London: Medical Publications, Ltd. 1934. (Pp. 289; 45 figures. 21s. net.)

² *Fuss und Bein. Ihre Erkrankungen und deren Behandlung*. By Professor Dr. med. Georg Hohmann. Second edition. Munich: J. F. Bergmann. 1934. (Pp. 380; 326 figures. R.M. 24; geb., R.M. 25.80.)

On the question of sensitiveness most workers agree that the test is usually positive: (1) after about the second week, (2) in nearly all complications such as arthritis, and (3) where there is a closed focus of infection. Opinions differ as to how long the reaction remains positive after cure, and what importance must be attached to a persistent positive remaining long after all signs have disappeared. Speaking generally, the reaction may be expected to return to negative in from six to twelve weeks following cure: where a strongly positive reaction persists the inference is that a focus of infection exists somewhere and must be sought for diligently; cases which have suffered from complications often show a positive reaction for months or even years after all symptoms have disappeared, and may perhaps be considered on a par with "Wassermann-fast" syphilitics.

This book is essentially a digest of all the work that has been done on the subject, no author of any note being omitted. The various methods are described and the opinions of the various workers quoted. The reader is left, very largely, to decide for himself which are the better techniques and to draw his own conclusions, though here and there the author gives his own views and experiences. All who have to do with the management of gonorrhoea should read this valuable work; if its publication succeeds in stimulating further interest in a subject which has not received the attention it deserves Dr. Rème will be in some degree compensated for undertaking a most laborious task. There can be little doubt that the value of the reaction is well established, and those who treat gonorrhoea without its aid are handicapping themselves severely: it is a curious fact that those who tend to belittle the value of the reaction are those who have least experience of it.

THE B.C.G. VACCINE

Dr. K. NEVILLE IRVINE, during his recent tenure of the Radcliffe Travelling Fellowship, spent two years visiting clinics and laboratories in Europe and America in order to collect data on the method of vaccination against tuberculosis introduced by the late Professor Calmette. His findings are incorporated in a short book entitled *The B.C.G. Vaccine*.⁴ In this work Dr. Irvine deals with the main questions that have excited discussion among scientific workers. His method is to devote a separate chapter to each question, to review briefly but comprehensively the published reports on the subject, to mention sometimes the work under progress, and, after a critical assessment of the findings, to furnish a fairly definite answer to the question posed at the commencement. As a result Dr. Irvine concludes that (1) the B.C.G. is not a "virus fixé," but can (or could until recently) increase in virulence when cultivated under suitable conditions; the parenthesis is necessary because the B.C.G. has shown signs lately of decreasing still further in virulence; (2) the B.C.G. does occasionally produce progressive tuberculosis in laboratory animals, though it has never yet been definitely proved to have done so in man; (3) a definite degree of immunity can be produced in cattle by B.C.G., though in other animals the results are doubtful; (4) a certain undefined degree of immunity can be produced in man by the vaccine; and (5) the vaccine should be given to children in tuberculous families to supplement the existing measures of control.

These views are very similar to those which have been advanced in the editorial columns of the *British Medical Journal* during the past few years, and are likely to meet with a considerable measure of approval. The real crux

of the matter is how great and how lasting is the degree of immunity produced. At present the evidence does not suggest that it is either great or of long duration, so that the general application of the vaccine is out of the question in this country. Its use must therefore be restricted to specially exposed classes. Since these constitute but a small fraction of the total population, information on the value of the vaccine will be very difficult to obtain unless a properly organized programme is laid down and adhered to by such bodies as the Ministry of Health and the Medical Research Council acting jointly.

Dr. Irvine is anxious that research on man should be undertaken, and is fully aware of the statistical fallacies that have marred so much of the work carried out in other countries. His book, by providing a reasoned résumé of the highly controversial data on B.C.G., will not only attract a wide public, but may lead to a demand for more exact knowledge of the protective value of the B.C.G. vaccine.

CORRECTIVE PHYSICAL EDUCATION

In her book with this title⁵ JOSEPHINE LANGWORTHY RATHBONE has made a conscientious attempt to produce a sound textbook for students of physical education to enable them to help the child who is suffering from faulty development or definite deformity, or who is otherwise maladjusted to take his part in the activities of normal life. Having reviewed the anatomy and physiology necessary for the understanding of normal body mechanics, the author describes the commoner types of faulty development and orthopaedic lesions, and explains how physical therapy may correct or help to compensate for these handicaps. She lays stress upon the importance of psychological factors in reconstructive work, and discusses the need for co-operation between home and school if corrective physical education is to have a reasonable hope of success. Systems of general exercises are given, and special exercises for different regions of the body. These are illustrated by "stick-man" diagrams, which show movements clearly, but, being small and spidery, are rather irritating in the text. A bibliography is appended, and a glossary in which the choice of words is curious. Why waste space in defining words in common use, such as "sleep," "normal," "obesity," "rigidity," "true," and give so little enlightenment about a word like "bacillus," which is merely mentioned as "a rod-shaped body"? The author does not claim to have contributed any original material to her subject, but she has its advancement very much at heart, and here presents her own knowledge and experience in such a way as to make it of practical benefit to students of physical education.

CHEMISTRY OF THE HORMONES

The Chemistry of the Hormones,⁶ by Professor B. HARROW and Dr. C. P. SHERWIN, is a useful monograph that summarizes current knowledge on this subject. It is divided into nine chapters, which deal with the following matters: thyroid and parathyroid hormones, insulin, pituitary, adrenal, male and female hormones, secretin, and plant hormones. The greater part of the volume is concerned with the methods used to isolate hormones from glands and other tissues. Adequate accounts are also given of the chemical properties of the hormones and our knowledge regarding their chemical structure, together with short accounts of the biological tests used

⁴ *The B.C.G. Vaccine*. By K. Neville Irvine, D.M., M.A., B.Sc. London: H. Milford, Oxford University Press, 1934. (Pp. 70. 5s. net.)

⁵ *Corrective Physical Education*. By Josephine Langworthy Rathbone, M.A. Philadelphia and London: W. B. Saunders Company, 1934. (Pp. 292; 153 figures. 12s.)

⁶ *The Chemistry of the Hormones*. By Benjamin Harrow, Ph.D., and Carl P. Sherwin, D.Sc., M.D., D.P.H. London: Baillière, Tindall and Cox, 1934. (Pp. vii + 227. 1s. 6d.)

in the estimation of hormones. A selected list of references appears at the end of each chapter.

The introduction of a short chapter on plant hormones deserves special notice, for the authors here discuss the chemistry and actions of the remarkable substance auxin, discovered by Kögl and his associates in Utrecht about two years ago. Auxin controls the growth of growing plants, and is of interest because of the extraordinary intensity of its action. A measurable response is produced by one fifty-millionth of a milligram. Mention also is made of tokokin, the substance allied to oestrin which Butenandt has isolated from plants. These discoveries promise to throw new light on the comparative physiology of hormone formation.

We think that *The Chemistry of the Hormones* will be found more suitable for reference than for general reading. The subject is one that is changing every month, and the prime necessity of a monograph of this kind is that it should provide a reliable summary of the most recent work. This purpose the monograph under review fulfils excellently.

Notes on Books

Dr. H. L. Tidy's *Synopsis*⁷ has established a place among the textbooks of medicine. The sixth edition, revised and enlarged, remains a handy volume of 1,100 pages, packed with information. Since the last edition, reviewed in our columns at the end of 1930, many advances have been made in medical knowledge, and the author has rewritten and brought up to date the sections on anaemia, nephritis, diseases of the endocrine glands, and deficiency disease. In these, as in other parts of the book, we are pleased to meet again the lucidity and crispness of style found in former editions. The author in his original preface suggested that the synopsis should not be used by students to replace a textbook of medicine; but it has a distinct rôle where revision of all the essential material is required by students or teachers, and consultants who carry "Tidy" with them on their rounds will find it a never-failing source of accurate information. A full index of over fifty pages enables any subject to be readily found. The new edition worthily maintains the high standard of former ones, and should meet with the same success.

The eighth volume of the *Transactions of the Bose Research Institute, Calcutta*, contains further observations by Sir CHUNDER BOSE on the movements and growth of plants.⁸ He had already shown that in sensitive plants the conducting tissues transmit impulses in a manner analogous to nerve impulses in animals; his latest researches establish the generalization that the motor mechanism is essentially similar in ordinary plants also. A second paper by Sir Chunder Bose bears on the problem of eliminating a voracious fish (bhetki), which is often present and does great damage in tanks used for stocking edible fish. He has discovered a vegetable extract which, in very dilute solutions, kills the bhetki without injuring the edible fish. An interesting paper by Mr. N. C. NAG contains observations on the influence of manganese in plants, in relation, more especially, to the inflorescence and to the proper functioning of green leaves. Mr. P. C. BASU contributes a paper on the racial affinities of the Mundas, one of the aboriginal tribes, which still retains its native purity of blood. Anthropometric details and cranial measurements are given, and the paper is illustrated with excellent photographs of the various forms of head and cranium met with in these natives. Other articles relate to variations in the growth of the stem and

roots of plants, the effect of certain Indian drugs on the peristaltic activities of animals, the composition of oils from leguminous plants, and the absorption-spectra of the vapour of silver and lead haloids.

*The Empire Social Hygiene Year-Book*⁹ represents the first annual edition of a record prepared by the British Social Hygiene Council of the work in progress in the British Dominions in combating venereal disease and in advancing the Council's policy of promoting social hygiene. The Right Hon. L. S. Amery, M.P., contributes a preface, in which he calls attention to the value of the educational approach, especially along the two lines of the study of biology and the use of the cinema film. He adds that there are few maladies more susceptible to individual cure or collective prevention, once their existence is frankly acknowledged, and once medical science, social legislation, and personal conduct combine to grapple with them. Sir Basil Blackett discusses imperial citizenship, its responsibilities and privileges, with emphasis on the possibilities arising from closer mutual co-operation. This annual record will in future replace the *Proceedings* of the Imperial Social Hygiene Congresses, which have hitherto appeared biennially. In the present issue Canada has been singled out for special study, and it is proposed that one Dominion or group of colonies shall be the subject of special survey in each succeeding edition. The relation of the Empire to international developments in social hygiene will be dealt with as occasion arises. The bulk of the volume is made up of surveys of the position in various parts of the Empire, which will be found very useful for reference purposes. A series of articles will also attract attention. They deal with such topics as the position of biology in education in Great Britain and the colonies; propaganda methods and results; the future of the film in education; the international aspect of traffic in women and children; the League of Nations inquiry in the East; venereal diseases administration in Great Britain; the International Labour Office and its work for seamen's welfare and coloured labour; and the constitution of a British film institute.

The volume entitled *Clinical Miscellany*¹⁰ comprises a series of twenty-two papers on various interesting cases, by ten members of the staff of the Mary Imogene Bassett Hospital, Cooperstown, New York. Among others mention may be made of a report on two cases of chronic meningococcaemia associated with nephritis; chronic glandular infection of the foci caused by an organism resembling *Flavobacterium pseudomallei* Whitmore; notes on the symptomatology of undulant fever, including one of short duration in a child of 9; and a scarlatiniform eruption followed by desquamation, associated with *Staphylococcus aureus* bacteraemia.

A ninth edition (making 123,000 copies) has been issued of the *Mothercraft Manual*,¹¹ by Miss MABEL LIDDIARD, matron of the Mothercraft Training Society. This society, it will be recalled, was inaugurated by Sir Truby King, and the work is now carried on by Miss Liddiard, with Dr. R. C. Jewesbury as honorary director. The changes in this edition have for the most part been suggested by readers who have been in correspondence with the author at Cromwell House, Highgate, N.6.

Reprints of articles published in various periodicals during 1933-4 by members of the staff of the Middlesex Hospital Medical School have been bound up within one cover. A copy of these collected papers will be added to the Library of the British Medical Association.

⁷ *Empire Social Hygiene Year-Book*, 1934. Prepared by the British Social Hygiene Council, Inc. First annual edition. London: George Allen and Unwin, Ltd. 1934. (Pp. 509. 15s. net.)

⁸ *Clinical Miscellany*. The Mary Imogene Bassett Hospital, Cooperstown, New York. Vol. i, 1934. Springfield and Baltimore: Charles C. Thomas. London: Baillière, Tindall and Cox. 1934. (Pp. 206; 37 figures. 13s. 6d.)

⁹ *The Mothercraft Manual, or The Expectant and Nursing Mother and Baby's First Two Years*. By Mabel Liddiard, S.R.N. With an introduction by J. S. Fairbairn, B.M., F.R.C.P., F.R.C.S. Ninth edition. London: J. and A. Churchill, Ltd. 1934. (Pp. 195; 32 figures, 8 plates. 3s. 6d. net, postage 4d.)

¹ *A Synopsis of Medicine*. By Henry Letheby Tidy, M.A., M.D., B.Ch., F.R.C.P. Sixth edition, revised and enlarged. Bristol: John Wright and Sons, Ltd.; London: Simpkin Marshall Ltd. 1934. (Pp. 1,112. 21s. net.)

² *Transactions of the Bose Research Institute, Calcutta*. Vol. viii, 1932-3. *Biological and Physical Researches*. Edited by Sir Jadadish Chunder Bose, M.A., D.Sc., LL.D., F.R.S. London: Longmans, Green and Co. 1934. (Pp. 266; 131 figures. 21s. net.)

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SATURDAY, OCTOBER 27th, 1934

HEALTH INSURANCE IN CANADA

At the sixty-fifth annual meeting of the Canadian Medical Association, held at Calgary in June last, a report was received from its Committee on Economics, of which Dr. W. Harvey Smith, a past President of the British Medical Association, was the chairman. That report, which contains the Canadian Association's "Plan for Health Insurance in Canada," has now been published in full in a Supplement to the *Canadian Medical Association Journal* for September. It will be found of intense interest and great importance to all those in this country who are concerned with the establishment of a general medical service for the nation based upon an enlargement of the present national health insurance system, as well as to those who in other British Dominions are considering the desirability of setting up some similar system. The report is in three parts. In the first part the meaning and object of health insurance are examined; a description of the development and character of the German, French, and English systems is given; the elaborate report of the American Medical Association is critically analysed; the British Medical Association's proposals for a general medical service are set out; and all the most usual general objections to health insurance are fairly and adequately considered. The second part of the report states fully the present position with regard to medical practice and to organized medical or health services in Canada as a whole and in its several Provinces. The third part contains the Canadian Medical Association's plan for State health insurance, with a reasoned exposition of the principles on which it is based, and of the methods which it is proposed should be used for their practical application. The whole of this third part, and considerable portions of Part I, will be of paramount interest to readers in Great Britain.

It is obvious that conditions in Canada are in many respects similar to those which exist in the United States of America: in others, however, there is a more distinct likeness to those prevalent in this country, particularly in the trend of thought and in administrative practice. This is especially true of the large towns and more populous localities; but even in very sparsely populated areas the needs to be provided for are not dissimilar from those in the Highlands and Islands of Scotland, which have been met by a specially organized medical and health service. The tenor of the whole report makes it evident that its authors have profited by both American and English experience. Negatively, they have seen from the American report on the costs of medical care, with its majority and minority sections and the disharmony to which they have given rise,

how the subject should not be dealt with; and, positively, it is gratifying to note how nearly alike their conclusions and suggestions are to those which have been put forward for development in this country. Indeed, in its general outline the actual scheme proposed is practically identical with that set out in the British Medical Association's "Proposals for a General Medical Service for the Nation"; and the authors quote with approval, and incorporate in their scheme, the principles and conditions which were stated and discussed, as being absolutely essential, by Sir Henry Brackenbury in his address on "The Essentials of a General Medical Service" (reported in the *British Medical Journal* of March 4th, 1933, and since published as a B.M.A. pamphlet) and in his article in the *New England Journal of Medicine* of April last, to which we drew attention in our issue of June 9th (p. 1036). These are, in brief, the right of all registered medical practitioners to be members of the service, the absence of interference between doctor and patient, the appropriate participation of the profession in administration, separation of medical benefit from cash benefits, provision of a full medical service, administration on an area basis and not through approved societies. A further most important agreement with the British Medical Association's "Proposals" is the insistence that the indigent patient must be provided for as an integral part of the scheme, and must be dealt with as nearly as possible on the same lines as those who are able to contribute in the ordinary way.

On the initiation of national health insurance in Great Britain historical reasons and existing facts appeared to justify the establishment of approved societies for the administration of cash benefits, and similar reasons and facts make it extremely difficult, if not impossible, to provide residential institutional treatment as one of the ordinary and universal benefits under a compulsory contributive insurance scheme. Canada is happily free from these particular disadvantages, and, learning from experience in this country and elsewhere, will doubtless be able to establish a more complete and less imperfect scheme. Some less important but not negligible features of the Canadian proposals may be noted. It is recommended that insured persons should pay individually some part of the cost of necessary medicines, and that at least an early, and preferably a periodic, health examination of insured persons should be required. The remuneration of medical practitioners in each area should be according to the method which they collectively select, but the "contract-salary" method should be limited to areas with a population insufficient otherwise to maintain a general practitioner. The importance of the preventive aspects of medicine is emphasized: "It is not enough to render lip-service to the idea of prevention and then leave it all to the public health worker. State health insurance must mean the systematic practice of preventive medicine by the health insurance medical practitioners." Above all—and this is of great significance in view of certain American proposals—the general practitioner and not

the hospital must be the basis and the pivot of the service. "It is *not* intended to make the hospital a medical centre with full-time staffs, but an institution to provide hospital facilities for the use of the general medical profession in the proper care of their patients."

The entire medical profession of the Empire, as represented by the British Medical Association, will desire to congratulate the Canadian Medical Association on this admirable report, and to wish that Association success in pressing its proposals upon the governing and public health authorities of the Dominion and of its Provinces.

INTERACTION OF LABORATORY AND CLINIC

When the first suggestion was made for the allocation of money to a Medical Research Committee, it is easy to imagine that in after-dinner conversations there must have been much shaking of heads among those who knew something about it. Government money spent on research would have to give results which would appeal not only to the university mind but also to the clinicians, and would have to give these results fairly quickly. In all probability the proposal was carried through by the enthusiasm of those who had little more than vision to justify their action. Fortunately Mr. Lloyd George had vision, and so had his immediate advisers, Sir Robert Morant and Sir Walter Fletcher. But the scheme would undoubtedly have met with little success if there had not been men to work it possessed of shrewd and practical minds. One of these, Professor Edward Mellanby, was last year appointed the secretary of the Medical Research Council, and he has now published an account of his work in London and in Sheffield under the title *Nutrition and Disease*.¹ The book has the significant subtitle "The Interaction of Clinical and Experimental Work," and it would be hard to find a more convincing vindication of the value of laboratory research to the clinician when it is carried out under favourable conditions.

Perhaps the most scientifically complete part is the account of Edward Mellanby's contribution to the solution of the problem of rickets, and of May Mellanby's not less important researches on the cause and prevention of dental caries. By now this work is becoming fairly well known, and it need not be discussed again here. The next section deals with simple and toxic goitres, to our knowledge of which the author protests he has made no original contribution. His experiments, however, furnish a very clear picture. When iodine is withheld from a pregnant bitch and from her puppies after birth, the offspring develop large thyroids containing no colloid. The importance of iodine for the pregnant mother is well shown. The hypertrophied thyroid in a dog can be filled with colloid by giving iodine, and, provided the treatment is begun early and the hypertrophy is not excessive,

the gland will become smaller. The giving of cod-liver oil, because of its iodine content, leads to a smaller thyroid gland; similarly, the administration of a large amount of codfish may greatly reduce the size of a goitre and change it to the colloid-containing form. To effect a reduction in the size of a hypertrophied thyroid in an adult dog a good deal of iodine must be given, for smaller amounts merely change the hyperplastic goitre to a colloid goitre. The administration of iodine in exophthalmic goitre produces a similar histological change, causing the thyroid to be filled with colloid and diminishing the symptoms, but there is danger that this newly stored material may be suddenly released. The essential problem of Graves's disease is to discover the mechanism of the release of the active principle from the gland.

In the later part of the book Professor Mellanby deals with the relation of vitamin A to infection and to nervous disorders. Here his argument is directed towards encouraging the investigation of diseases such as retrobulbar neuritis, subacute combined degeneration, and disseminated sclerosis from a new point of view—namely, that of vitamin A deficiency, though he considers that other factors are also involved. His view that the cause of beri-beri and of pellagra is a deficiency of vitamin A and not of vitamin B₁ and vitamin B₂ respectively is of great interest. He argues that the polyneuritis of beri-beri is quite different from avian polyneuritis, since the beri-beri nerve disorders are not rapidly cured by administration of vitamin B₁, and resemble more closely the peripheral nerve changes of vitamin A deficiency.

These lectures carry throughout the stamp of the author's vigorous personality. For example, he protests that "so much ill-judged criticism is levelled against any attempt to open up problems of disease from new angles, both by a certain type of clinician who demands nothing short of a direct cure, and by a certain type of biochemist with no appreciation of the difficulties of biological problems." His main theme, which he seeks to illustrate throughout, is that if the most productive results are wanted from investigators, and if medical treatment is to benefit from money spent on medical research, the investigator must be continually confronted with the problems of disease by having the supervision of patients; specific subjects for laboratory study are suggested in this way, and clinical experience helps in the interpretation of laboratory results. The author's position as secretary of the Medical Research Council gives him a unique opportunity to guide and supervise the application of these views, and the results of the next ten or fifteen years will be awaited with great interest.

In the Lane Medical Lectures, delivered at Stanford University, Professor J. C. Drummond gives an account of the present state of our knowledge of nutrition from a wider aspect.² There were five lectures, and in them is discussed the character of modern problems of nutri-

¹ *Nutrition and Disease. The Interaction of Clinical and Experimental Work.* By Edward Mellanby, M.D., F.R.C.P., F.R.S. Edinburgh and London: Oliver and Boyd. 1934. (8s. 6d. net.)

² *Lane Medical Lectures: Biochemical Studies of Nutritional Problems.* By J. C. Drummond. Stanford University Series, vol. iii, No. 2. London: H. Milford, Oxford University Press. 1934. (7s. net.)

SUPPLEMENT

TO THE

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ANNUAL PANEL CONFERENCE

THURSDAY, OCTOBER 18th, 1934

The Annual Conference of representatives of Local Medical and Panel Committees was held in the Great Hall of the British Medical Association House, Tavistock Square, London, on Thursday, October 18th. Dr. H. C. JONAS was in the chair (during the day he was re-elected Chairman, after a contest, for another year), supported by Dr. H. G. DAIN, chairman of the Insurance Acts Committee, and Mr. N. BISHOP HARMAN, treasurer of the National Insurance Defence Trust. The President of the Association, Dr. S. Watson Smith, was on the platform throughout the Conference.

THE WORK OF THE INSURANCE ACTS COMMITTEE

Dr. H. G. DAIN, who was warmly applauded on rising to move the reception of the Annual and Supplementary Reports of the Insurance Acts Committee (which were published in the *Supplements* of August 18th and October 6th respectively), began by remarking that for a number of years the Committee had been concerned, apart from its routine business, in steadily dealing with criticisms of the medical service under the Act, and it had intervened in such matters as the disciplinary machinery, which he believed was not now subject to serious complaint. During the year under review no large matter of policy had emerged. On the instruction of the Conference no action had been taken with regard to the capitation fee, pending the full restoration of the economy deductions. Until the cuts had been removed entirely, which it was hoped would be next year, no action would be taken for the reconsideration of the capitation fee as such.

A number of alterations in the regulations which they had been seeking for a long time were reported. The Committee had been concerned, however, with certain

questions which, though of smaller dimensions, were of some importance. One was the invasion of medical practice by lay bodies which proposed to buy and sell practices as a commercial proceeding, without regard to the purchaser eventually established in the practice or to the patients. This was a novelty by no means to be encouraged, and at the moment the Committee was considering how to make such traffic more difficult. No definite recommendations on this subject were brought before the present Conference, but it was being considered how far certain approved bodies could be put into connexion with one another so that the impecunious young doctor might be helped to buy a practice on reasonable terms, without the intervention of a commercial body interested only in making a profit on the transaction. The Insurance Acts Committee, the Medical Insurance Agency, and the British Medical Bureau were thinking out a scheme which it would be possible to recommend for adoption.

Two memorandums to Panel Committees, one on temporary residents and the other on "own arrangements," had been put forward by the Committee, and these would come up for discussion. The subject of medical records also was one on which certain recommendations were to be made. The biggest task of the Committee had been to carry on centrally the discussions which had previously taken place locally between Insurance Committees, practitioners, and approved societies' representatives. A conference had been held at which a very prominent representative of each type of approved society—friendly, industrial, trade union, and so forth—had been present, as a result of which certain suggestions with regard to smoother working in certification procedure had emerged, and would engage the attention of the Conference. Altogether the Committee could point to a series of achievements during the last ten years which had resulted in a marked improvement of the service rendered under the Acts.

CERTIFICATION PROCEDURE

RELATION OF PREGNANCY TO SICKNESS BENEFIT

In the first of a series of recommendations on certification, Dr. DAIN asked the Conference to approve the following criteria as governing the eligibility or otherwise of an insured pregnant woman for sickness benefit:

- (a) That a medical certificate shall be held to be inadequate if it certifies the incapacity for work of the insured person on the ground of pregnancy alone;
- (b) That a medical certificate shall be held to be inadequate if it certifies the incapacity for work of the insured person on the grounds of pregnancy even with an indication of the period of pregnancy;
- (c) That a medical certificate shall be held to be adequate if it certifies the incapacity for work of the insured person on the grounds of pregnancy plus an indication of the period of pregnancy and plus an indication of the nature of the employment such as would in fact preclude the insured person from continuing longer at that work;
- (d) That a medical certificate shall be held to be adequate if it certifies the incapacity for work of the insured person on the grounds of pregnancy and some disabling associated condition.

He said that this was the first practical suggestion to arise out of the talks which had taken place with representatives of approved societies. Certification in pregnancy had previously been a source of friction, and the Committee had thought that if it could come to an agreement as to what was meant by certificates relating to pregnancy a standard procedure might be reached on the part of the doctors issuing certificates and the societies receiving them. There was no compulsion on either party to act in a particular way, but if it were shown to be in the interests of both parties to act in that way it would probably come about. If what was now proposed was adopted as a routine by doctors and societies, the position for patients in pregnancy claiming insurance would be greatly eased.

Dr. R. G. CHASE (London) asked what was the meaning of "adequate", in criteria (c) and (d), and whether an "inadequate" certificate as in (a) and (b) would still be a legal document which would have to be considered in an appeal to a tribunal. Dr. J. O. SUMMERHAYES (East Sussex) asked whether the agreement of the Ministry of Health had been obtained.

Dr. DAIN said that "inadequate" meant that the society would not pay on the certificate as received. It would still be a legal document and a doctor could not be compelled to write any more, but it was urged that it was a matter of importance to both parties that fuller information should be given. With regard to the second question, this resolution was the outcome of a discussion between the Committee and the approved societies. It had been put before the Ministry; if it were approved by the Conference and by the societies the Ministry would issue a letter announcing such agreement between the bodies concerned, and suggesting to the practitioners and the societies that they should act accordingly.

Dr. W. HAMILTON (Midlothian) moved to substitute the following for the first subparagraph of the recommendation:

"That a medical certificate shall be held to be adequate if it certifies the incapacity for work of the insured person on the completion of the eighth month of pregnancy."

The one case for sickness benefit, he said, was unfitness for remunerative employment, and in his belief a woman in the ninth month of pregnancy was unfit. That was based on experience in a Scottish county, where women in pregnancy were looked after by the general practitioner. These regulations in regard to certification of incapacity in pregnancy referred almost exclusively to primigravidae, with whom the risks were greater. In his experience women in their first pregnancy did not do the heavier forms of housework; it was very frequent in his part of the country for such women to go home to their parents.

Dr. R. L. E. DOWNER (Shropshire) said that it had been stated that societies would not pay on "pregnancy" alone. But in his experience patients had come to him

having actually been sent by their approved society secretary demanding a certificate of pregnancy, and only that.

Dr. F. K. KERR (Edinburgh) considered that definitely after the eighth month a woman was entitled to a certificate of incapacity.

Dr. DAIN said that on looking into the matter the societies had found, to their surprise, that not half the women entitled to sickness pay for being pregnant claimed at eight months. The Midlothian proposal would mean compulsorily giving to all women payment for the last month, although half of them at present did not claim. The approved societies said that if half the women who were entitled to claim considered themselves sufficiently well to continue at remunerative work it was an indication that the matter was already being dealt with on sufficiently generous lines. The decision to pay on the certificates was always the responsibility of the approved societies, and any information that practitioners could give them on the certificates which helped their decision made it easier for the patient as well as for the society. It was not suggested that these new proposals should take the form of regulations; they were arrangements as between two parties. With regard to applicability at eight months it was always open to the practitioner to write: "Pregnancy, eight months; factory work," and everybody would agree that there were very few forms of factory work in which a woman should be engaged after the eighth month of pregnancy.

In reply to Dr. Peter Macdonald, Dr. DAIN said that if a claim was made by a woman at the eighth month she was generally accorded benefit.

Dr. ALLEN (Bradford), with regard to the statement that only half the women at eight months applied for benefit, said that they did not apply because of the difficulties put in their way. Many women objected to being sent to regional medical officers. Dr. DAIN replied that the reason why the women did not claim was surely only in the knowledge of the women themselves. He thought there must be a large number who were not influenced in the way suggested by the last speaker.

The Midlothian amendment was lost by a large majority, and the motion by the Insurance Acts Committee was carried.

Dr. C. C. BINNS (Leicester) moved to instruct the Committee to approach the Ministry with a view to the revision of the Act to ensure that maternity benefit should be extended to cover four weeks before and four weeks after confinement, and that sickness benefit should be inoperative during that time, but if already paid should be recoverable by deduction. It would be a great advantage to have an arrangement whereby a woman at the eighth month became automatically entitled to benefit. In some European countries a woman compulsorily ceased work at the eighth month. Such a measure might be expected to have an effect in lessening maternal mortality and morbidity.

Dr. DAIN pointed out that the existing arrangements were rather better than those proposed by the last speaker. There would be no advantage to the insured woman in doing what was proposed. She could claim now at eight months, and in most cases, if the fact of eight months' pregnancy and the occupation were stated on the certificate, that was sufficient. Leicester was asking for the standardization of a certain benefit, which would not on the average be any better than, or even as good as, what the women were getting now.

The Leicester motion was lost.

Dr. A. BEAUCHAMP (Birmingham) moved that where an insured woman was certified incapable of work by reason of "Pregnancy, eighth month," and the approved society required the opinion of the regional medical officer, the arrangements should always provide that the woman was examined in her own home. It was a hardship on the woman to have to undergo a journey. Incidentally, this would have the effect of cutting down unnecessary references.

Dr. BATTESON asked what Birmingham meant by the eighth month. Dr. BEAUCHAMP replied that what was really meant was the thirty-sixth week of pregnancy.

Dr. A. MCCARTHY (Birmingham) said that it was very hard on the woman to have to go through a city by means

of bus and tram to the regional medical office. Attendance at emergency confinements was not the ordinary function of a bus conductor!

Dr. DAIN said that if the resolution was modified to read "after eight months" it would be an excellent thing to put forward. It was no more than decent to require that a woman should not be asked to go to a centre when she had completed eight months' pregnancy.

In this form the Birmingham resolution was carried.

Intermediate and Final Certificates

Dr. DAIN next asked the Conference to concur in the view that it would be in the interests of all concerned if greater use were made by practitioners of the space already provided on the certificate: "You should come to see me again on day next," especially in cases where the practitioner considered the patient's incapacity was drawing to a close. The societies attached great importance to this, because they were anxious to save the days on which patients commonly delayed going to the doctor.

Dr. W. HAMILTON (Midlothian) expressed the view that this was a further concession to the societies which they did not deserve. Dr. DAIN did not think the Conference would reject a proposal merely because it was advantageous to the approved societies. The profession had an interest in seeing that societies were not called upon to pay more than was justly due, although they were also desirous that proper sick pay should not be withheld.

The Insurance Acts Committee's recommendation was carried by a large majority.

Dr. W. HAMILTON (Midlothian) moved that the intermediate certificate should be altered to enable the doctor to state that incapacity was continuing or would be continuing on a specified date, provided that the doctor saw the patient not more than two days after or two days before that date. He said that this motion had been carried at three Scottish Panel Conferences, and last year it was reinforced to the extent that the Scottish Conference requested the Insurance Acts Subcommittee for Scotland to take action with the Department of Health to implement the resolution. They were all familiar with the fact that societies habitually asked for certificates to be given on definite days of the week. That was difficult for any practitioner, especially a rural practitioner. He gave instances of the hardship in this respect on the rural practitioner as compared with his urban colleague, and also drew attention to the very different attitude of the societies in this respect on the friendly side of their work as compared with the insurance side. In the event of this motion being lost he reserved his right to move that it be carried so far as Scotland was concerned.

Dr. DAIN said that the Conference would be interested to hear the results of discussions with the approved societies on this question. Everyone knew about the patients requiring their intermediate certificates on a particular day of the week. One of the things which those of them who entered into conversations with the approved societies had thought to set at rest was this particular demand; and they had proposed to meet it exactly as in the Midlothian resolution. Most of the approved societies' representatives were prepared to consider it favourably, but one group, including two of the largest societies, said that they could not approve, their difficulty being the Government audit. If they paid a person sickness benefit for one or two days past the date of the certificate, and the person happened to declare off the next day, the auditor would not pass the payment. The other societies said they had no objection to the proposal; they always paid their members up to the day their agent saw them, whatever the date on the certificate, and when they in turn were asked about the Government auditor, they could only reply that they had followed this practice for twenty years and had had no trouble. The two big objecting societies admitted that they had never tried this practice, but they did not think it safe to do so. They also said that under their arrangements a man who presented a certificate which was for less than a week got paid for less than a week, and he who presented one for more than a week got paid for the longer period.

Therefore the only disadvantage was that the members of these societies did not get an even payment each week; one week it was less, and another more. That being so, he suggested that there was no need to worry about altering the certification rules in this respect, and so the proposal to do as Midlothian suggested was abandoned, not because it was disapproved, but because on the whole it was not necessary, and could not have gone forward with the approval of all types of approved societies.

On the motion of Dr. PETER MACDONALD it was agreed to pass to the next business, whereupon Dr. HAMILTON, who considered Dr. Dain's explanation inadequate in view of the plain demands of the Scottish Conferences, gave notice that at a later stage he would move that the motion be carried as applied to Scotland.

The next proposal was that practitioners be allowed to post-date a final certificate by three days in the case of both urban and rural patients. This would place the urban practitioner in the same advantageous position as the rural.

This was agreed to, as was a further recommendation that practitioners should be asked to initial any correction in the wording of the certificate.

Certification in Industrial Diseases

Dr. DAIN further proposed that the Conference express the opinion that insurance practitioners are not required to decide whether an incapacitating disease is occupational, but that they might be requested to indicate after the certified incapacitating disease appearing on a first certificate the comment "occupational" where they consider that possibly the character of the patient's employment may be contributory to or causative of the patient's condition. This would ease the position both of practitioners and of patients, and was one of the most valuable outcomes of the talks with the approved societies.

Dr. A. FORBES (Sheffield) moved: "That this Conference is of opinion that insurance practitioners are not required to decide whether an incapacitating disease is occupational." His Panel Committee considered it rather dangerous to certify a condition as occupational, with a query.

Dr. DAIN said that the Sheffield amendment was practically a negative, and it would have the effect of cutting out a method of collaboration which would save their patients and themselves a great deal of inconvenience.

The Sheffield amendment was lost, and the Insurance Acts Committee's proposal agreed to.

Another recommendation from the Insurance Acts Committee was one suggesting that the practitioner might communicate with the society intimating his opinion that a member, while no longer capable of following his previous employment, was capable of some alternative employment. Dr. Dain asked permission to withdraw it, however, because it now appeared, after a further talk with the representatives of approved societies, that it might be differently worded, and at the moment he was not prepared with the alternative form of words, though he was satisfied that some such proposal would be advantageous to everybody concerned.

References to Regional Medical Officers

Dr. DAIN next asked the Conference to agree that societies might issue to practitioners the communication (fully set out in the Annual Report of the Committee, *Supplement*, August 18th, p. 129) where it was felt that an examination by the regional medical officer was desirable, and that doctors should be advised to assist their patients by supplying the desired information—namely, as to whether a final certificate had been or was likely to be issued, whether any advantage would be gained by a reference to the R.M.O., and any other observations which the practitioner might wish to offer the society. It was felt that a good many patients would be saved from being sent to regional medical officers if the society addressed to the practitioner concerned a communication of this character. It would be a very good thing to help the societies to refer only suitable cases.

He was himself a part-time regional medical officer; and somebody had said to him that this would put a lot of such officers out of work, but he was quite prepared to lose sessions if the number of unnecessary references could be diminished.

Dr. R. G. CHASE said that London only agreed to this resolution provided there were sufficient professional safeguards. It looked rather like going behind the patient's back. Nothing appeared in the proposal to indicate that the patient need know anything about it. It was important to safeguard the legal aspect.

Dr. J. O. SUMMERHAYES moved to delete from the proposed form of inquiry the invitation to the practitioner to offer any other observations he might desire. Many young practitioners might be led to infringe the rules regarding professional secrecy.

The amendment was, however, not carried.

Dr. S. A. WINSTANLEY (Lancashire) moved that the communication from the society to the practitioner should not in any case be made until after the issue of at least two intermediate certificates. It would be much cheaper for societies to send these letters to doctors than to have their cases referred to regional medical officers, with the result that these letters would tend to be used in all cases, and often prematurely.

Dr. DAIN hoped the Conference would not accept the limitation. No doubt it would be possible for the society to send the practitioner such a communication directly after the issue of the first certificate, but it certainly would not do so, and in fact this procedure would only be followed when a sick visitor reported something doubtful about the patient's condition. Two of the societies would not have anything to do with this whatever, and so far from it being cheaper they feared that the use of the method might delay their references of certain cases for several days, so that they would lose in sickness benefit more than they gained in information.

The Lancashire amendment was lost.

Dr. A. B. STRICH (Gateshead) suggested that there be added to information supplied by the practitioner a further line: "I expect to issue a final certificate on . . ." and this was agreed to by the Conference. Dr. G. F. WHYTE (Dundee) spoke against the motion. He was pretty sure that it would mean the bombardment of practitioners by societies with such inquiries. Dr. HODSON pointed out that the use of the form was permissive. If a practitioner had misgivings all he had to do was to put it in the waste-paper basket.

Dr. L. J. PICTON (Cheshire) was doubtful as to whether professional secrecy was safeguarded. There was no provision for the signature of the insured person to a statement that he agreed to the information being given. Dr. H. C. C. VERRCH (Huntingdonshire) thought it would be less trouble to fill in this form than to fill in the ordinary form for the regional medical officer. Dr. G. H. SEDGWICK (West Riding) said that it appeared to be assumed that when a practitioner wrote "No" in answer to the question whether he considered a reference desirable it would mean that the patient would not be referred. But that by no means followed.

Dr. DAIN replied on the question of professional secrecy. The practitioner would receive the letter and give the information without any knowledge by the patient. But he would suggest that in the information asked for there was nothing which would conflict with professional secrecy. The practitioner was not expected to give a description of the case, but merely to say when he issued or expected to issue a final certificate, and whether he considered any advantage would be gained by a reference to the R.M.O. There were a number of patients about whom the doctor had his doubts as to whether they were as incapable as he had certified them, and if he had the opportunity of saying to the society that there would be an advantage in a reference, it would satisfy his uneasy conscience. As to whether it would save time or take more time, that could only be decided by experience. He believed that if used reasonably by the societies it would save time and unnecessary references. There was no obligation to use the form.

The proposal was agreed to by a large majority.

CHARGING FEES TO INSURED PATIENTS

Dr. DAIN moved the following as a recommendation from the Committee:

That the following amended Clause 7 (3) of the terms of service of insurance practitioners be approved:

"If a person in applying for treatment does not represent himself to be an insured person, but subsequently within three months from the date of the presentation by the practitioner of an account or the payment to the practitioner of any fee or of the last of any fees paid where no account is rendered in respect of that treatment, requests the Committee to secure the withdrawal of the account or the refund of the fee or fees, and the Committee are satisfied that he was eligible to receive treatment from the practitioner as an insured person, the Committee may, if they think fit and if they are satisfied that the action of the doctor in presenting an account or charging a fee was due to a genuine misapprehension, require the practitioner to withdraw his account or recover from him by deduction from his remuneration or otherwise the fee or fees paid by the applicant, but in either event, if the applicant was not at the date of the treatment on the practitioner's list, the Committee shall credit the practitioner with the remuneration to which he would have been entitled if the applicant had been attended by him as a temporary resident, and with payments calculated on the basis of the Drug Tariff, in respect of any drugs and appliances supplied to the applicant. Subject to any deduction which may be made by way of inflicting a penalty under the Committee's rules, the Committee shall repay to the applicant the net amount of any fee or fees recovered, and of any payment in respect of drugs or appliances obtained on the practitioner's prescription which he would, if he had received treatment as an insured person, have been entitled to obtain free of charge."

Dr. Dain said that the Committee had got an undertaking that certain alterations would be made subject to the period of notice being increased from one month to three months within which a claim by an insured person under the clause might be allowed. At an interview with officers of the Ministry it appeared that to reopen the question of the three months' notice as opposed to the one month's would be certain to kill the principle which had been with difficulty established. The Ministry would not be prepared to act without the approval of the Approved Societies Consultative Council, and said frankly that it would be fatal to go back on this question of the period of notice. Therefore, although the Committee would like to have had the one month, which it considered a sufficient period to allow, it was not prepared to stand out on this point as against the proposal to insert "three months."

Dr. E. K. LE FLEMING (Chairman of Council) said that this matter first arose on the interpretation of the clause as it stood at the time of the trouble in Dorset and the Ministerial inquiry there. Up to that time they were assured—and they considered that they had documentary evidence of that assurance—that the practitioner who under a genuine misapprehension charged an insured person who was on his list would not thereby be committing an offence. At the inquiry in Dorset one of the grievances was that a practitioner was "crimed" for a genuine misapprehension under this clause, and at the termination of that inquiry, which was a very satisfactory one to the Panel Committee, assurances were given that this particular matter should be put right. He was told by a person of authority at the Ministry that the position of the practitioner who made a genuine mistake in this respect was safeguarded in the regulations elsewhere; he asked for chapter and verse, and, of course, it was not forthcoming. Nowhere else in the regulations was this position provided for, and they were assured that the clause would be adjusted to meet the requirements of the case. Ever since that time negotiations had been going on between the Committee and the Ministry to try and settle this point. If the old Clause 7 (3) were read it would be seen to have clearly in view a genuine mistake of a practitioner charging an insured person on his own list. If that was read carefully by an astute person who was anxious to evade the regulations in spirit it would leave an opening to the man who had been trying to

charge wrongly to ride off on the excuse that the patient had never said that he was on his list. This difficulty had now been overcome by the insertion of the words: "charging of a fee was due to a genuine misapprehension." That, in the main, met their great difficulty concerning Clause 7 (3). Unfortunately, in obtaining that alteration they had to submit to the three months' period allowed for claim when they would have liked one month. If the one month were insisted on, the whole clause would be jeopardized. The point was to safeguard the man who had made a genuine mistake, and, much as they would all like to see one month allowed instead of three, he hoped the greater would not be thrown away in trying to get the less.

Dr. S. A. WINSTANLEY (Lancashire) said that, stripped of its official phraseology, this clause meant that an insured person who had never chosen a doctor, or was residing permanently or temporarily in an area where his doctor did not practise, might demand and receive treatment from any practitioner available without disclosing the fact that he was an insured person, and within a month he might repudiate the implied contract and ask for his money back or the withdrawal of the account. This clause had been described in that very hall as the practitioner's charter of freedom. It seemed to him that the only freedom provided in the clause was freedom to render free treatment to all and sundry. And what, after all, apart from this clause, was the risk of a penalty for a bona-fide mistake? One of the most pleasing things in the development of State insurance was the improved relationship between officials of Insurance Committees and practitioners and Panel Committees—at least it was so in Lancashire. He refused to believe that a practitioner ran any risk at all of penalty for a bona-fide error. They were contemplating giving something away which was very valuable for something which was of no value at all.

Dr. R. G. CHASE said that experience in London was that the number of claims under this clause was increasing, and a good deal of worry was entailed upon practitioners at the way in which the claims were treated. When this clause came up for discussion in the Insurance Acts Committee it was always dealt with in relation to the doctor who had unwittingly charged one of the insured persons on his own list. He himself had been on the Medical Service Subcommittee for ten years, and not one case of that sort had come forward. What was more clear was that patients, often in a surreptitious way, claimed treatment from insurance doctors whom they deliberately deceived, going to certain lengths to conceal the fact that they were insured persons. It was not on account of a difference between private and insurance treatment as such, for no such difference existed, but such patients did hanker after certain conveniences attaching to private patients. In order to bolster up such claims the Committee seemed to have agreed to increase the period during which they might be allowed.

Dr. R. WARING TAYLOR (Oxfordshire) said that his Insurance Committee, if a bona-fide mistake had been made, would not allow the doctor to be penalized, but it would never dream of increasing the period of the Medical Service Subcommittee.

Dr. DAIN said that

Medical Benefit Subcommittee. On the latter subcommittee, in London at all events, there was a large preponderance of laymen; from a decision of that committee there was no appeal, and practically all the claims were decided on documentary evidence alone. The Medical Service Subcommittee in London was sitting pretty regularly, and it would be perfectly in order for it to consider all claims under Clause 7 (3).

Dr. S. P. HUGGINS (Buckinghamshire) did not want such cases referred to the Medical Service Subcommittee, which in his area rarely met. It was a subcommittee which, because of what it was called upon to do in other respects, practitioners would desire to avoid.

Dr. PETER MACDONALD challenged two statements which he thought had been made by Dr. Chase. There was an appeal from the Medical Benefit Subcommittee, which reported, of course, to the Insurance Committee, and the latter could amend or send back or not approve its report. He also understood Dr. Chase to say that the sort of thing referred to often did not go before the subcommittee itself, but was dealt with by the clerk, in whose mind there was generally a bias against the doctor. He denied that that was the case throughout the country. In his own area the clerk to the Insurance Committee was one of the best friends the doctors possessed.

SIR HENRY BRACKENBURY said that the difficulty about this proposal was that circumstances varied in different parts of the country. In Middlesex there was no Medical Benefit Subcommittee at all. That being so, it would be wrong to pass a general resolution which would seem to apply everywhere. In most places he had no doubt that the situation was eased by the decent character of the clerk and the members of the committee; in other places there was no question that it was important to preserve the situation as against the tendencies of a particular clerk. But he would remind the Conference that the Medical Service Subcommittee was set up in the first instance for the protection of the doctor, and there might well be a good many cases where the doctor, for his own protection, would rather have his conduct made the subject of a charge which went before the properly constituted Medical Service Subcommittee than a vague and loose discussion in the Medical Benefit Subcommittee. He suggested that where a doctor would prefer any case to be inquired into by the Medical Service Subcommittee of his area he should have the right so to demand. Then, at the doctor's option, the case might go before the one body or the other.

Dr. DAIN said that he was prepared, if London would agree, to take Sir Henry Brackenbury's suggestion as a reference for reconsideration by the Insurance Acts Committee. But he was bound to oppose the London resolution as it stood.

Dr. CHASE welcomed Dr. Dain's suggestion. Dr. Macdonald had misunderstood his reference to clerks to Insurance Committees. All that he had said was that the clerks would be in a difficult position if they were left to decide issues of this kind, and he did not think they should.

Dr. CHASE then referred to the Committee for Insurance Committees. All that he had said was that the clerks would be in a difficult position if they were left to decide issues of this kind, and he did not think they should. Dr. CHASE then referred to the Committee for Insurance Committees. All that he had said was that the clerks would be in a difficult position if they were left to decide issues of this kind, and he did not think they should.

Society had issued a booklet (which the speaker displayed to the Conference) consisting of twelve small pages, condensing what appeared in the *National Formulary* and adding the price of each prescription and the dispensing charge of the pharmacist. The prices, however, were expressed in decimal points. The advantage of such a publication was educational, and therefore made for efficiency. The doctor who did not know the cost of his ingredients was apt to go unnecessarily to a prescription which was not the only possible prescription for the patient in the given case. Such information would bring the constitution of the *National Formulary* better home to the young practitioner in his practice, and thus the compilation would be popularized. It had been suggested that such a booklet as he had mentioned would lend itself to the designs of people who disseminated propaganda against insurance practice, but if such people wanted to get at the actual cost of the drugs used they had only to sit down with the *National Formulary* itself and the Drug Tariff. The Paddington Medical Society had distributed more than 300 copies of the booklet, which had had quite an unexpected success.

Dr. DAIN said that there were good reasons in favour of an official price list, but other reasons against it, and while it might not be inappropriate for a Panel Committee to find out what the costs of prescriptions were and tell its members, a wider issue of such a booklet might lead some people to say that, having stereotyped prescribing by the issue of a *Formulary*, the doctors were now stereotyping the cost of prescriptions along certain narrow lines. Years ago in Birmingham a formulary was issued and the prices included, and one doctor actually cut out the prices, mounted them, and hung them in his consulting room as a demonstration of the cheapness of insurance drugs.

The London amendment was lost.

NATIONAL INSURANCE DEFENCE TRUST

At this point the report of the trustees of the National Insurance Defence Trust was taken.

The TREASURER (Mr. Bishop Harman) said that, taking Great Britain as a whole, 76 per cent. of the quota had been subscribed. He thought the level satisfactory. He could not help feeling sorry at the low position of London (37 per cent.). The counties around London—Berkshire (100 per cent.), Buckinghamshire (93 per cent.), Essex (102 per cent.), Surrey (108 per cent.), East Sussex (100 per cent.)—suggested by their excellent contributions that it was not the poverty of the area which was keeping London low. The investments of the Trust were as fine as one could wish for, but stocks to the value of £40,000—£20,000 in Dominion stocks and £20,000 in Consolidated 4 per cent.—would fall due to be repaid or converted next year. The investments at cost stood at £220,000, and at present market value, £268,000. The values of gilt-edged securities were such that it was increasingly difficult to invest profitably within the narrow field to which the Trust was restricted. On the income and expenditure side, he drew attention to the contribution on the *National Formulary*, and the publication, £1,099, so that a total of £1,099 had been made. The subscriptions, interest, and dividends and interest

with a loan for its development. In the dispute at Llanelly between the local doctors and the workmen's committee, where a stage had been reached at which what they would describe as "blackleg" practitioners had been introduced into the area and their names placed on the panel, taking the place of practitioners who had contributed to the Fund, the Trustees had decided to afford certain assistance to practitioners who had sustained financial loss, and further payment would be made as the need continued. (Applause.)

Dr. T. J. T. WILMOT (Lindsy) had a resolution urging that steps be taken to stimulate backward areas to pay their subscriptions, but he was willing to leave this to the Insurance Acts Committee, and in that sense it was accepted by the Conference.

Dr. J. A. AINSCOW (Smethwick) moved that the objects and constitution of the Trust should be revised so as to provide: (1) that all practitioners should subscribe annually to the Fund, whether or not the quota for their area had been subscribed; (2) that the amount of the Fund should be maintained at £250,000, after meeting all proper charges; and (3) that any sums in excess of that figure should be returned or credited to Panel Committees in accordance with the contributions made. The motion, he said, was not meant to be critical of the Fund or its objects as at present defined. His committee simply asked that the older men should not continue to be asked to subscribe to this Fund when the younger men were not doing so. The practitioners who had contributed the greater part of the money in hand were those least likely to derive any benefit, and that position would be accentuated as time went on. The scheme his committee had in mind was to ensure that some return was made to those practitioners, and at the same time to preserve the Fund in its present healthy condition.

Dr. H. C. C. VERRCH pointed out that the motion said "shall subscribe." If they would not, what procedure was available for making them?

Dr. DAIN said that it rested largely with the persuasiveness of secretaries of Panel Committees. The problem would be solved if the secretary could persuade each new practitioner coming on the Panel that a deduction for this purpose was almost a part of his contract. In each Panel Committee area there must be established the proper machinery for seeing that every new insurance practitioner was approached on this subject. With regard to the limit of the fund, the Conference had set a quarter of a million to be obtained by subscription. At the moment £199,000 had been reached in that way. When the total had been reached it would be for the trustees and the Conference to decide whether that was the place at which to stop. What was to be done with the Fund? The terms of the Trust were drawn so widely that practically all matters interesting insurance practitioners could be included as objects on which moneys might be spent. It was important to spend—out of income, not capital—by an increasing number of methods. On one or two occasions the trustees had made tentative suggestions, only one of which had been accepted up to now, and every individual had useful constructive suggestions. It would be only too happy to con-

Dr. C. L. B.

(Buckinghamshire) pointed out the importance of joining a firm to

WILTSHIRE BRANCH: SWINDON DIVISION.—At 7, The Mall, Swindon, Wednesday, October 31st, 9 p.m. Dr. Anwyl Davies: "A Clinical Talk on V.D."

YORKSHIRE BRANCH: BARNSELY DIVISION.—At Three Cranes Hotel, Eldon Street, Barnsley, Thursday, November 1st, 8.30 p.m. Dr. Charles Hill: "The Local Authority, the Hospital, and the General Practitioner."

YORKSHIRE BRANCH: DONCASTER DIVISION.—At Parkinson's Café, High Street, Doncaster, Wednesday, October 31st, 4 p.m. Dr. Charles Hill: "Open Choice in the Public Assistance Medical Service."

YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.—At George Hotel, Huddersfield, Wednesday, October 31st, 7.30 p.m., dinner. 8.30 p.m., Dr. Charles Hill: "Effect of Recent Legislation on Medical Practice."

YORKSHIRE BRANCH: ROTHERHAM DIVISION.—At Crown Hotel, Rotherham, Friday, November 2nd, 8 p.m., supper. 8.45 p.m., Dr. Charles Hill: "Effect of Recent Legislation on Medical Practice."

Naval and Military Appointments

ROYAL NAVAL MEDICAL SERVICE

Surgeon Commanders R. E. Rampling to the *Delhi* on recommissioning, and as Squadron Medical Officer on transfer of flag; J. A. Maxwell to the *Pembroke*, for Royal Naval Hospital, Chatham, temporarily.

Surgeon Lieutenant Commander M. Barton to the *Pembroke*, for Royal Naval Hospital, Chatham, temporarily.

Surgeon Lieutenant J. W. L. Crossill to be Surgeon Lieutenant Commander.

Surgeon Lieutenants B. S. Lewis to the *Alecto*; J. M. McNamara to the *Duncan*.

The seniority of Surgeon Lieutenant F. W. Chippindale has been antedated to April 9th, 1932.

ROYAL NAVAL VOLUNTEER RESERVE

Surgeon Lieutenants R. M. Buchanan and A. R. Thomas to be Surgeon Lieutenant Commanders.

Probationary Surgeon Lieutenant W. F. Jones to be Surgeon Lieutenant, seniority November 29th, 1932.

Surgeon Sublieutenant C. M. Lamont to be Surgeon Lieutenant.

ARMY MEDICAL SERVICES

Colonel J. D. Richmond, D.S.O., O.B.E., late R.A.M.C., having attained the age for retirement, is placed on retired pay.

Lieut.-Col. H. L. Howell, O.B.E., M.C., from R.A.M.C., to be Colonel.

ROYAL ARMY MEDICAL CORPS

Major R. G. Shaw, M.C., to be Lieutenant-Colonel.

The following Lieutenants (on probation) are confirmed in their rank: A. J. Clyne, R. H. Foster, A. G. D. Whyte, J. Boyle, A. L. Pennefather, J. S. Ruddell, F. E. Buckland, D. T. Swift, R. A. Stephen, J. H. J. Crosse, E. H. P. Lassen, J. Buchanan, and W. T. Bermingham.

Lieutenant (on probation) M. J. Horgan resigns his commission.

F. J. O'Dowd to be Lieutenant (on probation).

ROYAL AIR FORCE MEDICAL SERVICE

Group Captain A. E. Panter to R.A.F. General Hospital, Hinaidi, for duty as Commanding Officer.

Squadron Leaders W. F. Wilson to No. 2 Flying Training School, Digby, for duty as Medical Officer; H. McW. Daniel to Station Headquarters, Hendon, for duty as Medical Officer; A. Briscoe to R.A.F. General Hospital, Hinaidi, for duty as Medical Officer.

Flight Lieutenant A. Harvey to be Squadron Leader.

Flight Lieutenants J. Magner to Station Headquarters, Netheravon; J. F. McGovern to R.A.F. General Hospital, Hinaidi; C. G. J. Nicholls to R.A.F. Hospital, Aden.

Flying Officer L. S. Everett to be Flight Lieutenant.

Flying Officers H. S. Barber to Aircraft Park, Lahore; V. D'A. Blackburn to No. 28 (Army Co-operation) Squadron, Ambala, India.

AUXILIARY AIR FORCE: MEDICAL BRANCH

J. H. Williams to be Flying Officer.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

Captain and Brevet Major O. G. Misquith to be Major. Captains J. W. Hirst, A. Swindale, D. L. Kerr, and A. M. Cooke to be Majors.

Lieutenants J. W. Lobban, B. G. Maegraith, G. E. O'Riordan, A. W. Marsden, T. F. Briggs, and J. G. Lawson to be Captains.

TERRITORIAL ARMY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS

Major F. Hauxwell, having attained the age limit, retires and retains his rank, with permission to wear the prescribed uniform.

INDIAN MEDICAL SERVICE

Lieut.-Col. M. L. Treston has been duly elected a member of the Indian Medical Council [constituted under Section 3 of the Indian Medical Council Act, 1933 (XXVII of 1933)] under Clause (b) of Subsection (1) of Section 3.

The services of Captain R. M. Lloyd Still are placed temporarily at the disposal of the Government of Burma as from September 10th.

Lieutenant J. M. Davidson relinquishes his probationary appointment.

To be Lieutenants (on probation): W. J. Virgin, J. Brebner, H. W. G. Staunton (seniorities August 1st, 1933), and J. D. Gray.

British Medical Association

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Diary of Central Meetings

OCTOBER

26 Fri. Public Health Committee, 2 p.m.
30 Tues. Post-graduate Subcommittee.

NOVEMBER

7 Wed. Council, 10 a.m.
9 Fri. Fractures Committee, 2.30 p.m.

DIARY OF SOCIETIES AND LECTURES

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Thurs., 5 p.m., Bradshaw Lecture by Dr. J. H. Sheldon: Haemochromatosis.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Museum Demonstrations: Mon., 5 p.m., Mr. Cecil P. G. Wakeley, Tumours of the Intestinal Tract; Fri., 5 p.m., Dr. John Beattie, Dysfunction of the Anterior Lobe of the Pituitary Gland.

ROYAL SOCIETY OF MEDICINE

Simon Lecture, Thurs., 5 p.m. Mr. Herbert Tilley: Inflammation of the Maxillary Antrum and Other Accessory Sinuses.

Section of Tropical Diseases and Parasitology.—Thurs., 8 p.m. Paper by Dr. Edward G. Sayers: Tropical Diseases in the British Solomon Island Protectorate. Cinematograph Demonstration by Dr. R. Cecil Robertson: Field and Laboratory Work in Schistosomiasis Japonica (Bilharziasis) in China.

Section of Otolaryngology.—Fri., 10.30 a.m. (Cases at 9.30 a.m.) Presidential Address by Mr. E. A. Peters: Infection of the Eustachian Tube and Pulmonary Tract. Paper by Mr. C. S. Hallpike: Physiology of the Tympanic Muscles.

Section of Laryngology.—Fri., 5 p.m. (Cases at 4 p.m.) Discussion: The Laryngeal Paralyses. Anatomical Aspect, Miss U. Fielding; Surgical Aspect, Mr. C. A. Joll; Pathological and Clinical Aspects, Dr. George Riddoch.

Section of Anaesthetics.—Fri., 8.30 p.m. Presidential Address by Dr. H. P. Crampton: Factors, Apart from Anaesthetics, which Influence Anaesthesia.

BRITISH INSTITUTE OF PHILOSOPHY.—At University Hall, 14, Gordon Square, W.C., Thurs., 5 p.m. Professor W. Langdon Brown, The Biology of Social Life.

BRITISH RED CROSS SOCIETY'S CLINIC FOR RHEUMATISM, Peto Place, N.W.—Thurs., 8.30 p.m. Dr. B. S. Nissé, Aetiological Factors in the Causation of Rheumatism.

EUGENICS SOCIETY.—At Linnean Society's Rooms, Burlington House, Piccadilly, W., Tues., 5.15 p.m. Professor H. Muckermann: The Eugenic Movement in Germany.

INSTITUTE OF MEDICAL PSYCHOLOGY, Malet Place, W.C.—Tues., 6 p.m. Professor Morris Ginsberg: Nationalism and Internationalism.

ROYAL INSTITUTE OF PUBLIC HEALTH AND INSTITUTE OF HYGIENE.—At 28, Portland Place, W., Wed., 2.30 p.m. Dr. R. Scott Stevenson: Prevention of Deafness.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, University Street, W.C.—Mon., 4.15 p.m. Professor Charles Singer: Boerhaave.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At West London Hospital, Fri., 8 p.m. Clinical and Pathological Meeting.

POST-GRADUATE COURSES AND LECTURES

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.—*West End Hospital for Nervous Diseases*, Welbeck Street, W.: All-day Post-Graduate Course in Neurology. *City of London Maternity Hospital*, City Road, E.C.: All-day Week-end Course in Obstetrics. *Medical Society of London*, Chandos Street, W.: Tues., 2.30 p.m., Lecture-Demonstration on Headache by Dr. Clark-Kennedy; Wed., 8.30 p.m., Lecture by Dr. Leonard Findlay, Diet of Infants. *Chelsea Hospital for Women*, Arthur Street, S.W.: Course in Gynaecology. *Panel of Teachers*: Individual clinics in medicine and surgery available daily. Courses are open only to members and associates of the Fellowship.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.—*Fri.*, 4 p.m., Mr. W. G. Scott-Brown, Oesophageal Obstruction.

CHARING CROSS HOSPITAL MEDICAL SCHOOL.—*Sun.*, 10.30 a.m., Mr. E. D. D. Davis, Meningitis Arising from the Ear and Nose; 11.45 a.m., Dr. K. Shirley Smith, Pericarditis.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—*Wed.*, 4 p.m., Dr. H. V. Morlock, Treatment of Some Acute Pulmonary Diseases.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL, Denmark Hill, S.E.—*Thurs.*, 9 p.m., Sir Charlton Briscoe, Pleurisy.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester Square, W.C.—*Tues.*, 5 p.m., Dr. H. W. Barber, Psoriasis. *Thurs.*, 5 p.m., Dr. W. Griffith, Eczema.

NATIONAL HOSPITAL, Queen Square, W.C.—*Mon. to Fri.*, 2 p.m., Out-patient Clinics. *Mon.*, 3.30 p.m., Dr. E. A. Carmichael, Physiology of the Sympathetic System. *Tues. and Thurs.*, 3.30 p.m., Dr. M. Critchley, Cranial Nerves and Spinal Senses. *Wed.*, 3.30 p.m., Dr. J. S. Collier, Clinical Demonstration. *Fri.*, 3.30 p.m., Dr. Bernard Hart, The Psycho-neuroses.

ST. PAUL'S HOSPITAL, Endell Street, W.C.—*Wed.*, 4.30 p.m., Mr. W. K. Irwin, Diagnosis and Treatment of Some Important Prostatic Diseases.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION.—At St. James's Hospital, Ouseley Road, S.W.: *Wed.*, 4 p.m., Dr. W. E. Lloyd, Differential Diagnosis and Treatment of Cases of Severe Anaemia.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—*Daily*, 2 p.m., Medical and Surgical Clinics, Operations. *Mon.*, 10 a.m., Medical and Surgical Wards, Skin Clinic; 2 p.m., Surgical Wards, Eye and Gynaecological Clinics; 4.15 p.m., Lecture, Mr. Green-Armstrong, Pelvic Inflammation. *Tues.*, 10 a.m., Medical Wards; 11 a.m., Surgical Wards; 2 p.m., Throat Clinic; 4.15 p.m., Lecture, Dr. Konstam, Diabetes Mellitus. *Wed.*, 10 a.m., Medical Children's Clinic and Wards; 2 p.m., Eye Clinic and Medical Wards. *Thurs.*, 10 a.m., Neurological and Gynaecological Clinics; 11.30 a.m., Fracture Demonstration; 2 p.m., Eye and Genito-urinary Clinics; 4.15 p.m., Lecture, Mr. Steadman, Periodontal Disease. *Fri.*, 10 a.m., Skin Clinic; 12 noon, Lecture on Treatment; 2 p.m., Throat Clinic. *Sat.*, 10 a.m., Medical and Surgical Wards, Children's and Surgical Clinics. The lectures at 4.15 p.m. are open to all medical practitioners without fee.

LEEDS POST-GRADUATE CLINICAL DEMONSTRATIONS.—At Leeds General Infirmary: *Tues.*, 3.30 p.m., Dr. Ingram, Dermatological Cases.

LEEDS PUBLIC DISPENSARY AND HOSPITAL.—*Wed.*, 4.15 p.m., Dr. H. G. Garland, Diagnosis of Organic Nervous Disease.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTENATAL CLINICS.—Royal Infirmary: *Mon. and Thurs.*, 10.30 a.m., Maternity Hospital: *Mon., Tues., Wed., Thurs., and Fri.*, 11.30 a.m.

MANCHESTER: ANCOATS HOSPITAL.—*Thurs.*, 4.15 p.m., Mr. E. S. Brentnall, Injuries of the Quadriceps Mechanism.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE EAR, NOSE, THROAT, AND CHEST.—*Wed.*, 4.30 p.m., Dr. H. R. Clarke, Emphysema.

MANCHESTER ROYAL INFIRMARY.—*Tues.*, 4.15 p.m., Mr. P. R. Wrigley, Haematuria. *Fri.*, 4.15 p.m., Dr. J. Wharton, Demonstration of Ophthalmic Cases.

VACANCIES

ASSOCIATION OF SURGEONS OF GREAT BRITAIN AND IRELAND.—Surgical Scholarship.

BATH AND WESSEX CHILDREN'S ORTHOPAEDIC HOSPITAL.—H.S.

BIRMINGHAM CITY.—C.O. (male) at Selly Oak Hospital.

BLACKBURN COUNTY BOROUGH.—R.J.A.M.O. (male) at Queen's Park Institution and Infirmary.

BRITISH POST-GRADUATE MEDICAL SCHOOL.—Dean.

CARDIFF CITY.—A.R.M.O. (male) at City Isolation Hospital.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.—Third R.H.S. (male).

CONNAUGHT HOSPITAL, Walthamstow, E.—C.O. (male).

DUBLIN CITY SKIN AND CANCER HOSPITAL.—Radiologist.

EASTBOURNE: PRINCESS ALICE MEMORIAL HOSPITAL.—P.

EAST SUSSEX COUNTY COUNCIL.—Non-resident A.M.O. (male, unmarried) at Southlands Hospital, Shoreham-by-Sea.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—(1) Fourth P. (2) Fourth S.

EXETER CITY MENTAL HOSPITAL.—A.M.O. (male).

FINCHLEY MEMORIAL HOSPITAL.—R.M.O.

GLASGOW EYE INFIRMARY.—R.H.S.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—H.S. (male).

HERTFORD COUNTY HOSPITAL.—Hon. Assistant P.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 60, Grove End Road, N.W.—Anaesthetist.

LANCASHIRE MENTAL HOSPITALS BOARD.—Whole-time Deputy Medical Superintendent at County Mental Hospital, Prestwich.

LONDON COUNTY COUNCIL.—(1) A.M.O. (Grade I, unmarried) at Downs Hospital for Children, Sutton, Surrey. (2) Temporary District M.O. in (a) Area III, District J (West Islington); (b) Area III, District K (East Islington); (c) Area I, District L (Isle of Dogs).

LONDON JEWISH HOSPITAL, Stepney Green, E.—(1) R.M.O. and H.P. (2) H.S. (3) C.O.

MAIDSTONE BOROUGH.—A.M.O. (female).

MANCHESTER: ANCOATS HOSPITAL.—C.O.

MANCHESTER CITY.—Assistant Tuberculosis Officer (male).

MEKBOROUGH: MONTAGU HOSPITAL.—J.H.S. (female).

MINISTRY OF HEALTH.—Deputy Regional M.O.s.

NEWCASTLE-UPON-TYNE, CITY AND COUNTY OF.—Resident Medical Assistant at Barrasford Sanatorium.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.—Hon. S. to Ear, Nose, and Throat Department.

PLYMOUTH: PRINCE OF WALES'S HOSPITAL.—R.S.O. (male).

READING: ROYAL BERKSHIRE HOSPITAL.—H.S. (male) with charge of beds for Special Departments (Ophthalmic, Ear, Nose, and Throat).

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Two Part-time A.M.O. (females) for Venereal Diseases (female) Department.

SHEFFIELD CITY.—R.H.S. at King Edward VII Hospital, Rivelin Valley.

STOCKPORT INFIRMARY.—H.P. (male).

STROUD GENERAL HOSPITAL.—R.M.O.

SURREY COUNTY COUNCIL.—Second A.M.O. (male) at County Sanatorium, Milford, near Godalming.

SWANSEA COUNTY BOROUGH.—(1) A.M.O. (female). (2) R.M.O. (male, unmarried) at Infectious Diseases Hospital.

TALGARH: MID-WALES COUNTIES MENTAL HOSPITAL.—A.M.O. (male).

WALLASEY: VICTORIA CENTRAL HOSPITAL.—Hon. Assistant S.

WARRINGTON: COUNTY MENTAL HOSPITAL, Winwick.—A.M.O.

WARWICKSHIRE AND COVENTRY JOINT COMMITTEE FOR TUBERCULOSIS.—Senior A.M.O. (male) at King Edward VII Memorial Sanatorium, Hertford Hill, near Warwick.

WEST BROMWICH COUNTY BOROUGH.—(1) Two R.H.P. and (2) R.H.S. (males) at Hallam Hospital.

WEST RIDING OF YORKSHIRE COUNTY COUNCIL.—Medical Superintendent at Middleton-in-Wharfedale Sanatorium.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—H.S. (male).

WORCESTER COUNTY AND CITY MENTAL HOSPITAL, Powick.—A.M.O. (male, unmarried).

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Kelvedon (Essex), Calashels (Selkirkshire). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1, by November 6th.

This list is compiled from our advertisement columns, where full particulars are given. To ensure notice in this column advertisements must be received not later than the first post on Tuesday mornings. Further unclassified vacancies will be found in the advertising pages.

APPOINTMENTS

BUTLER, T. Harrison, D.M., Ch.B., M.R.C.S., L.R.C.P., Medical Referee under the Workmen's Compensation Act, 1925, for all County Court Districts at present comprised in Circuits Nos. 25, 26, and 28, with a view to his dealing with ophthalmic cases.

DODDS, R. Leslie, M.B., M.Ch., F.R.C.S., M.C.O.G., Senior Assistant Obstetric Surgeon, Jewish Maternity Hospital.

EDDIE, T. Stirling, M.B., M.S.Meb., Honorary Assistant Physician, Hull Royal Infirmary.

CERTIFYING FACTORY SURGEONS.—R. M. Easton, M.B., Ch.B., for the Erith District (Kent); W. E. Fildes, M.B., Ch.B., for the Wolverton District (Buckinghamshire); T. O'Driscoll, M.B., B.Ch., B.A.O. N.U.I., for the Guisborough District (Yorkshire); F. W. A. Watt, M.B., B.S., for the Tavistock District (Devon).

BIRTHS, MARRIAGES, AND DEATHS

The charge for inserting announcements of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH

STEWART.—At Cottingham, on October 23rd, to Cora, wife of Dr. D. Stenhouse Stewart, a son.

DEATHS

HORTON.—On October 10th, at Weymouth, Thomas Horton, M.D. (late of Torquay), in his 79th year.

MILES.—On October 9th, Mary Shortridge Miles, House-Surgeon, General Hospital, Stroud, Glos., dearly loved elder daughter of W. S. and Winnie Miles.

PRICE.—On October 22nd, at "Ambleside," Dudley, Worcs, John Dudley Price, M.R.C.S.Eng., L.R.C.P.Lond., passed away, aged 73 years.

tion, the part played by protein, the part played by fat, the fat-soluble vitamins, and the water-soluble vitamins. This account, where it covers the same ground as that surveyed in Professor Mellanby's book, is more orthodox—for example, in expressing the usually accepted views of beri-beri and pellagra, though Professor Drummond considers that pellagra is due not only to a deficiency in vitamin B, but also to a deficiency in protein. Many valuable tables are included, such as that showing the results of Corry Mann's experiments on the addition of milk and other supplements to a schoolboy's basic dietary, and the table summarizing M'Gonigle's evidence to explain the increased death rate following slum clearance in Stockton. It will be remembered that families, when moved to better conditions outside the slums, showed a higher death rate because their rents were more and they had less to spend on food. Professor Drummond's lectures will be found a valuable source of information.

BRITISH POST-GRADUATE MEDICAL SCHOOL

On March 17th (p. 487) we published an article on the new British Post-Graduate Medical School, describing the progress so far made with the scheme. It was written by the dean, Dr. M. H. MacKeith. We now have to announce with regret that Dr. MacKeith, within a year of his appointment, has found it necessary to retire from that office on grounds of ill-health. The governing body of the school has accepted this resignation, while expressing sincere appreciation of all the heavy work he has done for the school at its initiation. Public notice of the vacancy is given in our advertisement pages this week. A point to be emphasized is that this announcement is no mere formality: the governing body has decided to throw the post open to the medical profession at large. The dean is the principal executive officer and secretary of the governing body, responsible under its direction for arranging courses of instruction for students at the hospital and school in Ducane Road, Hammersmith, and their attendance at courses elsewhere; for the administrative and financial management of the school; for organizing the supply of information about the school and its work, both in this country and abroad; and generally for advancing the aims and purposes of the school. The inclusive salary of the post is £1,800 a year.

All the professorial chairs and readerships are now filled, and the governing body has been singularly fortunate in the persons appointed to these positions. The new buildings will be completed by the end of this year, and it is hoped that during the first three months of 1935 the professors and their staffs will gradually get the machine into working order. They are due to take over the wards and out-patient department, etc., of the associated hospital from January 1st, so that the school may be open for teaching purposes by about April 1st. Meanwhile the school council has got into its stride, and now holds frequent meetings at which all the details with regard to courses of instruction and so forth are being carefully worked out. It is the earnest wish of all who have at heart the success of the British Post-Graduate Medical School that suitable candidates for the key position of dean may come forward.

INHERITED SMALL-POX

Inherited infection is commoner in small-pox than in any other acute illness, and the study of the effect of the present benign strain of virus upon the offspring of infected mothers, in the current issue of the *Archives of Disease in Childhood*,¹ raises many points of great interest. Drs. J. Pickford Marsden and C. R. M. Greenfield of the London County Council's small-pox hospital service report thirty-four cases of parturient women with small-pox observed by them over the last six years (out of a total of over thirteen thousand patients admitted to hospital during this period). These fell into four large groups as regards the time-incidence of the disease in the baby. Three instances of true congenital small-pox occurred with the rash present at birth, and in each case a period of about ten days had elapsed between the onset of the mother's illness and the estimated time of the appearance of the exanthem on the child. In a second group (eight cases) the child's rash appeared within fourteen days of birth, and in each case the mother at the time of parturition was either in the pre-eruptive stage of small-pox or in the early days of efflorescence, with a time interval of nine to twelve days between the onset of the mother's toxæmia and the appearance of the child's rash. In the third group the child's focal rash appeared on the eleventh or twelfth day of life, and in each case birth had occurred at the time of the outcrop of the mother's focal rash. The fourth group consisted of seventeen infants who escaped congenital infection, although born of infected mothers, seven of them acquiring small-pox subsequent to birth, always with the focal rash on the child fourteen days after the appearance of the mother's rash, and they were all either not vaccinated or vaccinated later in the incubation period. Of the remaining ten cases two were born during convalescence of the mother and found to be immune (unsuccessful vaccination on three occasions); seven babies born late in the mother's illness were all successfully vaccinated and did not develop small-pox; and, finally, twins born during the first week of the mother's illness presented a very interesting phenomenon, for both were successfully vaccinated and one only developed small-pox, on the eleventh day of extrauterine life. This last example of inherited infection gives point to the view, borne out by a study of the whole series, that if not exactly fortuitous, it is more or less of an accident if infection is inherited. All the cases in the first three groups (seventeen) were infected, and all in the fourth group escaped the inherited mode of acquiring the disease. It is also clear that when both mother and foetus are infected they do not pass through the disease simultaneously, and the foetus has its own individual period of incubation. It is nowadays held that the common mode of infection in small-pox is by the respiratory tract, and about fourteen days afterwards the outcrop of the focal rash begins: this time interval was present in those babies acquiring their infection after birth. For those inheriting the disease a shorter period was commonly observed, which corresponds exactly to that found in rare instances of inoculated small-pox, and suggests that the bulk of foetal infections are acquired *in utero* at the time of the mother's "septicaemia" stage—

that is, the stage of generalization of the virus. If the foetus escapes this it may similarly acquire infection at or about the time of separation from its parent, especially if the mother's rash is in its early stage when birth takes place. If the child escapes these two contingencies it escapes congenital infection, but generally, and in the absence of prompt successful vaccination, the disease, acquired by the more usual respiratory route, will show itself after the normal period of incubation. Lastly, there is evidence that if the foetus escapes intra-uterine infection and remains *in utero* until the mother is convalescent from her attack of small-pox it may be born immune. This carefully worked out series of cases will be of great interest to those concerned with the whole mechanism of the inheritance of disease and immunity.

CYSTIC DISEASE OF THE LUNG

Although Fontanus and Nonnus each described a case of bilateral cyst of the lung as far back as 1638, and Wrisberg reported accessory lobes in 1777, congenital abnormalities of the lungs entered the realm of the clinician only with the development of chest radiology. The accessory lobe of the azygos vein has recently attracted much interest, but not sufficient attention has perhaps been drawn to cystic conditions in view of certain diagnostic and pathological facts which Debré and Gilbrin emphasize in a review of the subject.¹ Congenital pulmonary cysts may be unilateral or bilateral, single, multilocular, or multiple; or part or the whole of the lung may assume almost a honeycomb appearance. The condition generally leads to stillbirth or to death shortly after birth, but it may remain latent for any number of years, symptoms, when they arise, taking the form of "major dyspnoeic crises," with cyanosis, violent dyspnoea, and intense inspiratory stridor. In older children and adults, however, dyspnoea is less prominent, and the suffocating attack, associated with pain in the chest, may lead to a diagnosis of spontaneous pneumothorax, which, an x-ray photograph, if one is dealing with a single cyst, will appear to confirm. Careful examination of the latter should, however, enable the distinction to be made, for in the congenital condition the collapsed lung will not be seen, or its margin be ill defined; and, further, the air cavity is generally irregular in outline and may show ramifications due to smaller pockets or vessels. It is difficult to explain the sudden onset of symptoms after years of latency and the varying course adopted subsequently. For instance, in one patient the first attack occurred at the age of 66, in another the first attack took place at the age of 6 years, but no other had occurred by the age of 15, only slight dyspnoea being noticed in the interval. The authors point out, however, that a similar course of events is not uncommonly found associated with congenital malformations elsewhere. They also quote an interesting case of an infant whose cyst was seen gradually to increase in size by noting the diminution of the atelectatic area above it by means of serial skiagrams. Cysts may undergo various pathological changes: open into a bronchus; fuse, when multiple; suppurate; and multiple abscesses have been found surrounding a cyst. Malignant disease as a sequel has not been observed

up to the present. Of great interest is the authors' discussion of the condition in relation to bronchiectasis. They point out that the histology of cysts is in the main similar to that found in bronchiectasis, and, basing themselves also on pathological evidence published previously, express the opinion that a congenital abnormality is at the bottom of all cases of bronchiectasis. As in all malformations infection occurs readily in the dilated bronchi (which find it difficult to empty), and this accounts for the onset of symptoms. They consider the rarity with which bronchiectasis follows the very common pneumonic sequels of measles, whooping-cough, and influenza as clinical support of their hypothesis, which incidentally is borne out by a paper by Sayé² describing tubular bronchiectasis (with symptoms) in the left base in each of two univitelline female twins aged 18 years. It would appear that, in spite of its rarity, congenital cystic disease of the lung has to be kept in mind in dealing with spontaneous pneumothorax—especially if it persists unaltered for a considerable time—and with atelectasis, and as a possible cause of abscess.

THE HARVEIAN FESTIVAL

The annual Harveian commemoration was celebrated by the Royal College of Physicians of London on St. Luke's Day (Thursday, October 18th) in the usual manner. In the afternoon the Oration was delivered by Dr. James Collier, and an abridgement of this appeared in the opening pages of our last issue. In the evening the Harveian dinner was held at the College in accordance with Harvey's injunction: "Once every year there shall be a general Feast kept within the said College for all the Fellows that shall please to come." The President, Lord Dawson of Penn, took the chair in his robe of office, and the company included many distinguished guests, some of whom were there in a twofold capacity—as Fellows of the College and as representatives of other bodies. After the memory of William Harvey had been toasted in silence, the health of "The Guests" was proposed by the President. Among those whom Lord Dawson gracefully welcomed by name were Lord Greville and Lord Gorell; the Bishop of Southwark and Chancellor Ponsonby, who had officiated at the service in Marylebone Church that day; Dr. Edwin Bramwell, President of the sister College in Edinburgh; Sir Holburt Waring, President of the Royal College of Surgeons of England; Dr. Robert Hutchison, President of the Royal Society of Medicine; Dr. J. S. Fairbairn, President of the British College of Obstetricians and Gynaecologists; Dr. Ralph Noble, physician to the psychiatric clinic, Royal Prince Alfred Hospital, Sydney; Dr. E. K. Le Fleming, Chairman of Council of the British Medical Association; Professor Edward Mellanby, Secretary of the Medical Research Council; Mr. Hugh Lett, Chairman of the Committee of Management of the Conjoint Examining Board in England; Mr. G. H. Gater, Clerk of the London County Council; Sir Squire Sprigge, Editor of the *Lancet*, and Dr. N. G. Horner, Editor of the *British Medical Journal*. The concern, said Lord Dawson, of those within their fellowship was not only knowledge and its furtherance, but such applications of that knowledge as would adapt it to social needs.

¹ *Presse Méd.*, July 11th, 1934, p. 1413.

² *Anales de Med. Int.*, Madrid, 1932, i, 13.

Medicine must play an increasing part in the constructive statesmanship that had for its aim the health and contentment of mankind. It had to take into account not only the sick man but the man who was up and doing. One by one new services were arising for the promotion of health, and it was here that education had a frontier with medicine. In agreement with Dr. Cyril Norwood he would put physical education in the forefront of the whole educational system, thus bringing the schoolmaster and the doctor into responsible partnership. He coupled with the toast the names of Lord Gorell and Mr. Maurice Healy, K.C., who each replied with entertaining speeches. The health of the Harveian Orator was proposed by the Senior Censor, Professor Langdon Brown, who, speaking as a friend of thirty years' standing, said that Dr. James Collier's Oration that day had given a taste of his quality—that gift of illuminating the dark corners of some problem with a flash of insight. After Dr. Collier's reply the library was visited, where the Harveian librarian, Dr. Arnold Chaplin, had set out a number of valuable books and MSS.

TREATMENT OF MÉNIÈRE'S DISEASE

In a study of forty-two cases subjected to division of the auditory nerve for the relief of vertigo, Dr. Walter E. Dandy¹ shows that the operation can now be performed safely, for there was no fatal case and the attacks of vertigo invariably ceased. The early operations recorded on the eighth nerve were performed for the relief of tinnitus, but the results were discouraging, because the risk was great and the effect on this symptom uncertain. Dandy found that in his series the tinnitus disappeared in twenty cases and diminished in a few others; so it appears that a patient has about an even chance of obtaining relief from this symptom also. The chief technical advance which has contributed to the safety of the operation is the evacuation of cerebro-spinal fluid from the cisterna magna before the cerebellar hemisphere is elevated to expose the internal auditory meatus. After opening the dura mater a spatula is passed over the cerebellum towards the cisterna magna and the arachnoid sheath opened, in order that the cerebro-spinal fluid may be released and aspirated. The cerebellum then can be elevated without using pressure, thus exposing the cerebello-pontine angle. The eighth nerve is exposed by opening the overlying cisterna lateralis. Various methods can be used for the actual division of the nerve, but the essential precautions are to avoid injury of the facial nerve and of the internal auditory artery or any small branches. In three cases Dandy has endeavoured to preserve the residual hearing by dividing only the vestibular portion of the nerve, and he has found that up to the present this has been successful; but in many cases the patient is so deaf in the affected ear that conservation of the hearing is not important and the chance of relief from tinnitus would be of greater value. Transient diplopia followed in four cases, as has been observed by Cairns and Brain, but no satisfactory explanation has been provided for this complication, though it is significant that this symptom is sometimes associated with those of the classical group which com-

prise Ménière's syndrome. There is also a transient vertigo in many cases after the operation; it does not, however, last longer than a week to ten days, usually much less. Dizziness on turning the head may persist for several months, but the attacks of vertigo always cease. From a careful analysis of the histories of the cases and study of the symptoms before and after operation, Dandy concludes that the lesion responsible for Ménière's syndrome lies in the eighth nerve itself and not in the semicircular canals as has been commonly assumed. He has never observed the same effects after operations in the posterior fossa performed for other conditions, and concludes that the post-operative dizziness is related to the disease, of which the pathology is still unknown. This careful study of a comparatively large series of cases shows the operation to be safe in the hands of a competent neurological surgeon and to be of practical value. In spite of the remarkable success which has been obtained by the perfection of his surgical technique, it may be questioned whether at least two of the conclusions reached by Dandy are valid. In the first place, he says that no other treatment, either curative or palliative, is worthy of mention. A. Hautant² has shown that a proportion of cases of essential vertigo may receive benefit over long periods by relief of intralabyrinthine pressure. The operation is a simple one of opening either the horizontal or the posterior semicircular canal by an exposure through the mastoid process. The good effects of this method of treatment have been confirmed in this country also, and they appear to invalidate the second conclusion of Dandy that the lesion lies in the eighth nerve rather than in the semicircular canals.

A SURGICAL SCHOLARSHIP

A notice by the Association of Surgeons of Great Britain and Ireland appears in our advertisement pages inviting applications for a surgical scholarship to the value of £350, to be held for one year. The object of the scholarship is to enable the holder to pursue a definite line of research or to study surgery in specified clinics at home or abroad. It is designed for the assistance of young surgeons, possibly not yet on the staffs of hospitals, and the wording of the condition applying to it is left vague so that candidates may propose to carry out any kind of surgical work. For example, laboratory or clinical research in some special branch may be proposed alone, or may be combined with travel. The scholarship may also be utilized solely as an assistance in travelling to various surgical centres. A scholar is expected to devote the greater part of his time for a year to the scholarship, but the holding of a part-time appointment does not preclude election to it. Candidates holding such posts as registrarships are not usually considered suitable owing to the amount of time they must give to routine work.

We have received a cable from Professor D. W. Carmalt-Jones, President-Elect of the New Zealand Branch Conference to be held in Dunedin from February 26th to March 1st, 1935, saying that visitors from home will be welcome.

¹ Arch. Otolaryngol., July, 1934.

² Bull. de l'Acad. de Méd., June 26th, 1934, p. 933.

NATIONAL RADIUM

THE ANNUAL REPORTS

The fifth annual reports of the National Radium Trust and the Radium Commission differ slightly as regards the periods to which they refer, the first relating to the twelve months ended March 31st, 1934, and the second to the year August 1st, 1933, to July 31st, 1934. The financial statement of the Commission, however, covers the same twelve months as the Trust. Taken together, the two reports afford important information as to the supplies of radium in the country as a whole, and indicate the uses to which it is being put.

Changes in the membership of the Trust and Commission which occurred in the year under review were noted in these columns last year (*Journal*, 1933, ii, 746). It has also to be recorded now that the retirement of Professor Woodburn Morison created a vacancy in the membership of the Trust, and that Professor A. J. Hall has been co-opted in his place. Moreover, Professor T. G. Moorhead succeeded Lord Dawson as President of the British Medical Association, and therefore became a member of the Trust. Lord Dawson still remains a member, however, in his capacity as President of the Royal College of Physicians of London.

Comparatively small purchases of radium were made during the year under review, totalling 174.295 mg. The amount of the element owned by the Trust on March 31st, 1934, was just over 19 grams. Towards the end of the twelve months the Commission submitted detailed specifications covering in all 1,870.96 mg. of radium and 290 containers. It was clear that in addition to the not inconsiderable amount of radium in hand in containers of types no longer required, a substantial purchase of new radium would be necessary, and negotiations were commenced for this. Since the commencement of the Trust's work a sum of £11,501 has been derived from interest on investments, including £1,535 in respect of the year 1933-4. Against this, the total administrative expenses of the Trust, including £297 for that year (of which £134 represents payments made to the National Physical Laboratory for the testing and measurement of radium and containers), amount to £2,707, leaving a balance of £8,794. Of this sum, £1,500 is on loan to the Radium Commission, being the balance still outstanding of advances amounting to £2,500 made to the Commission in 1929-30.

Two points of a more general nature are included in the report of the Trust. Reference is made to the scheme of research now in progress at the Radium Institute, and under the supervision of a special governing body with the status of a joint research board of the Medical Research Council and the Department of Scientific and Industrial Research, concerning beam therapy, in which a highly penetrating beam of rays is directed upon a malignant growth from a large quantity of radium, termed a "bomb." It is obvious that the results of this investigation may have an important bearing on the work and policy of both the Trust and the Commission in relation to the provision of radium treatment on a national scale. The Cornish radium, which was lent by the Trust to the National Physical Laboratory, has been employed during the year in an attempt to enable gamma ray dosage to be measured in terms of the röntgen, the isometric unit adopted internationally for the measurement of α -ray dosage. Preliminary measurements indicate that in the case of gamma rays scattered radiation plays a prominent part. It appears likely that with further experience it will be possible to specify conditions under which the röntgen can be realized in the gamma ray region with sufficient accuracy for present purposes. The investigation is being continued.

DEVELOPMENT OF CENTRES

The Radium Commission has the following objectives: promotion of the treatment of the sick throughout Great Britain; advancement of knowledge of the best methods of rendering such treatment; and the securing of due economy in using radium therapeutically. The second of these has been dealt with in earlier reports, and the appraisal of results will be dealt with when sufficient statistical evidence has accumulated. The Commission's view that patients should come to well-equipped centres, rather than that radium should be taken to patients, has been strengthened by experience since it was originally set out in the first report of the series. Reference was made in last year's report to the advisability of using in a single scheme all the radium in a centre, including that provided by the Commission with that possessed independently by the centre. The implied unity of organization is less easy at some centres than at others, but the avoidance of wastage of "radium time" is only possible in institutions which can provide bed accommodation for a large number of patients.

The Commission has urged this in previous reports, and in the present one regret is expressed that so few signs of the expansion of bed accommodation at the centres are yet observable. In some centres difficulty in complete pooling arises from the fact that, especially in those instances in which the hospitals are unprovided with "pay" beds, it becomes necessary to make arrangements for a proportion of the hospital's own stock of radium to be used outside its buildings—for example, in nursing homes. In such instances, it is added, the provision of "pay" beds—a practice which has been steadily extending during recent years—may help to solve some of the difficulties attending admission of patients to these centres. Only by avoiding wastage of "radium time" and by provision of adequate bed accommodation can the existing centres perform fully one of their essential functions as units in a national radium service—namely, providing for the needs of a population larger than that normally served by the hospitals in which they have been established. If, it is argued, radium therapy of cancer is confined to the populations normally served by the hospitals selected to act as centres, large areas of the country will remain unprovided for, and it seems essential that arrangements should be made with the authorities of neighbouring voluntary and municipal hospitals to secure a larger clientele for this particular service. The establishment of a larger number of centres is not a practicable alternative, owing to the comparatively small number of hospitals which are provided with all the other services necessary to the proper functioning of a radiotherapeutic centre conceived on modern lines. It is added that the modern tendency to combine treatment by α rays with that by radium may be expected to act as a further incentive to concentration of treatment within the centre. Looking further to the future, and assuming that beam therapy by large masses of radium realizes the hopes of those now having experience of it, an additional reason will exist for organizing the administration of treatment in the way advocated by the Commission.

WORK AT THE CENTRES

Such concentration of radiotherapy at a centre was from the first fully adopted by Aberdeen. The radium officer is not only able to organize the actual details of the radium treatment, but in virtue of his appointment as McRobert research lecturer in malignant disease, comes into contact from the educational side with post-graduates and with medical students in the final year of their studies. The value of courses of instruction in the diagnosis and treatment of malignant disease to men who are going into

general practice cannot be overestimated. This centre has for many years been recognized as a research centre under the Medical Research Council, and the increased radium facilities have enabled it to undertake further investigations. The physics department is showing great activity in the work of the radon requirements of the centre, and in devising solutions to the many problems of radiation dosage which confront the therapist. At Birmingham the General Hospital has been a research centre under the Medical Research Council since 1922, and the help given to actual treatment by the services and investigations in physics have been noteworthy. The Radon Laboratory is under the general supervision of the professor of physics; an increasing use is being made of radon by the centre and by the hospitals in the surrounding district which it serves. Considerable developments in deep x-ray therapy are foreshadowed at this centre. No appreciable improvement in the administrative difficulties having occurred at Bristol, it has been found necessary to withdraw a further 350 mg. of national radium during the past year. The Cardiff centre is well organized, and there is at present no waiting list of cancer patients. The follow-up system at this centre is so complete that nearly all the patients have been traced. Financial reasons prevented the appointment of a specially qualified whole-time radium officer at the Dundee Royal Infirmary, and it has been necessary to return the supply of the national radium and to close the centre.

At the Edinburgh centre it has become evident that a mass unit of one-third of a gram of radium has produced good results, and it has been arranged that a unit of one gram shall now come into operation. A new organization, the Cancer Control Organization, has been formed for Edinburgh and South-East Scotland to assist the National Radium Centre. It has already made a grant of £100 towards the cost of the radium mass unit, and provided financial support for the publication for the first time of the full statistical analysis of the follow-up department for cases of malignant disease. There are two national centres at Glasgow—namely, at the Western Infirmary and the Royal Infirmary. Both continue to do well. The Leeds centre is also doing well, and its allocation of radium has been increased to a total of 1,506.5 mg. The medical director of radium therapy at this centre will now be able to develop and evolve methods for the application of radium at a distance in the treatment of cancer patients. Supplementary x-ray treatment of patients, who in the first instance are treated by radium, will be facilitated in future at this centre by the provision of a new department of deep x-ray therapy.

Owing to the reorganization of the Liverpool Radium Institute and Hospital for Cancer, the National Centre at the Royal Infirmary has not been functioning to its full capacity. In view of the lessening local demand for radium, and of the great need for it in other centres, it has been arranged that a fraction of the radium here shall be returned for use elsewhere. At Manchester the Radium Institute was in existence long before the Commission came into being, and had entered into obligations with neighbouring hospitals, which extend as far away as Chester and Denbighshire. Although national radium is used only within the Holt Institute and the Manchester Royal Infirmary, this practice of using radium outside these institutions cuts across the policy of concentration, which has been one of the main planks in the structure of the Commission's efforts. Sheffield is doing well, and has received a further loan of 250.5 mg. of radium element. A feature of considerable interest at this centre has been the installation of an x-ray apparatus with a new type of x-ray tube, the department being under the direction of the radium officer. By this means he is able to control to his complete satisfaction the dosage to patients who, for the most part, have had radium treatment first. Its

design permits the dismounting of the tube, should the hot filament burn out; a new filament can be introduced and the tube put into action again in the course of a few hours. Bearing in mind the high cost of x-ray tubes operating at high voltages, the performance of these new tubes is being watched with great interest.

Regional centres are operating well at Lincoln, Norwich, Plymouth, Southampton, and Stoke-on-Trent, although the first of these is not yet in full working order. Recognition has been extended to the Royal Infirmary, Bradford, the Burnley Victoria Hospital, the Leicester Royal Infirmary, and the Wolverhampton Royal Hospital, where radium treatment has been in operation for a number of years. These institutions have willingly entered into obligations to the Commission, including the taking of clinical records in proper form, the rendering of statistics annually, and the observance of the rules concerning the care and custody of radium and the protection of the staff which handles it. It is expected that these institutions and others which will similarly receive recognition in the future will, by their returns, make a considerable contribution to the information which the Commission is steadily accumulating as to the value of the treatment of cancer by radium.

ONE-GRAM UNIT THERAPY

In 1932 the Commission placed one-gram units of radium at the disposal of the Cancer Hospital, the Middlesex Hospital, and University College Hospital, in order to find out the utility of these units in the treatment of malignant disease, the work being co-ordinated by a standing clinical committee. This committee has now reported that 251 cases were treated at the three institutions between April 1st, 1933, and April 1st, 1934. All have been treated under identical conditions as regards filtration, radium skin distance, and shape and size of beam, the only variants being the duration and frequency of dosage and the distribution of fields. The majority of these cases allow of histological verification of the diagnosis; they can also be readily observed, and the results of treatment be assessed without difficulty.

AVAILABLE SUPPLY OF RADIUM

The total amount put at the disposal of the Commission by the Trust to date is approximately 20 grams. Of this, 18 grams is on loan to centres, the Medical Research Council, and the National Physical Laboratory, and recently an additional 1.87 grams has been allocated to the national centres at Edinburgh, Leeds, Manchester, and Sheffield. The Commission, by arrangement with the King's Fund, exercises control over the three one-gram units, the property of the Fund, mentioned in the previous paragraph, so that the total amount of radium under the control of the Commission amounts to 23 grams. There are at present thirteen national radium centres and five regional radium centres. There is an additional amount of radium in the country under other control, and it is estimated that the total quantity available for treatment is now about 70 grams. It is expected that more will be required in the future, partly because of the increased number of patients seeking radium therapy and partly because of the spreading opinion that the use of large doses in units and bombs is more effective.

The London School of Hygiene and Tropical Medicine has issued, as a stencilled document of thirty-two pages, a classified catalogue of books in the library relating to natural science. This is the first of a series of class catalogues which it is proposed to issue from time to time; periodical publications and pamphlets are not included. Copies will be sent gratis to interested persons on request to the librarian of the school (Keppel Street, W.C.1).

Nova et Vetera

THE DEATH OF MAURICEAU'S SISTER

To few women is it given to have the manner of their passing recorded for posterity with such wealth of detail and with such eloquence as that with which François Mauriceau, the great seventeenth century accoucheur, describes the death of his sister from ante-partum haemorrhage. A macabre chance decreed that he himself should play the chief part at her death-bed, and in his eager and vivid prose he tells the story.* It is in the nineteenth chapter of the first book, *De la Perte de la Sang*, that he relates the history, and he certainly could have devised no better method of impressing upon his readers the point he wished to make—that a woman attacked by a severe haemorrhage late in pregnancy should be treated by version and delivery without delay. It is of interest to us as showing the slow diffusion of knowledge in those days. Mauriceau himself quotes Guillemeau, who antedated him by about half a century, as having advocated the same treatment, yet he writes as if he had to contend (as no doubt he had) with an almost universal dead weight of contrary opinion, or else no opinion at all save a passive fatalism. When one reflects that "Celuy qu'on croyoit estre le plus habile de tous les chirurgiens qui pratiquait à Paris les accouchemens" could do no better when summoned to the bedside of a woman with ante-partum haemorrhage than to pronounce that "C'étoit une femme morte, à laquelle il n'y avoit rien à faire que de luy faire recevoir tous les Sacramens," it moves one to wonder what must have been the practice of the commonality of the profession in those days. It is difficult for a translation to do full justice to his fiery and passionate rhetoric, for he writes as though the scene were enacted before his eyes, and as if he lived again the hours of suspense he passed at the bedside of his dying sister.

The more to confirm these things I will recount from my own experience a case the memory of which is so painful that the ink with which I now write to make it known that the public may profit by it, seems to be of blood. For on this pitiful and fatal occasion, to my sorrow there was shed before me the very semblance of my own [blood].

It was nine years ago that my own sister, who had not yet reached 21 years of age, was pregnant of her fifth child. Being in good health till then, she had the misfortune to injure herself (though in appearance only slightly), having fallen upon her knees. Her belly struck the earth a little, after which she was a day or two without hurt, which made her neglect the rest which was so necessary for her. But the third day after her hurt at eleven o'clock in the morning, she was suddenly taken with strong and frequent pains in the belly, to which was at once joined a great loss of blood. This caused her to send incontinently for the midwife; but she, not understanding her trade so well as she might, said when she was come, that she must be patient till the uterus was opened by the pains, assuring her for the rest that she had nothing to fear, and would soon be delivered from her trouble, more especially as the child presented favourably. For three or four hours she thus filled her with vain hopes, until (the flow of blood continuing abundant) the pains began to leave her and the poor woman fell several times into a faintness. Thereupon the midwife demanded that a surgeon should come to save her.

They came in haste to my house to warn me, but unhappily not finding me there, went to seek him who was thought to be the cleverest of all the surgeons who practised midwifery in Paris. They led him immediately to the lodging of my sister, it being then about four hours after midday. But having seen the state in which she lay, he contented himself by saying that she was a dead woman for whom there was nothing to be done save to give her the Sacraments, and that she could in no way be delivered. To this the midwife agreed, believing that the opinion of a man so justly famous was not to be doubted. When he had made this prognosis, not wishing to remain longer, he returned to his house leaving

in this deplorable state and without succour this young woman, whose life, and that of her child, he could without question have saved if he had delivered her at the time. This could easily have been done, as one may see by the rest of the story.

After the advice of a man of so great a reputation joined to that of the midwife, all the people who were present believed that since M. Such-a-One could do nothing, there could be no remedy for so great an evil other than to trust in God who alone could do all things. They tried thenceforth as best they could to comfort my poor sister, who was longing with great earnestness to see me, to know if I should pronounce the same sentence, and if her trouble, which grew worse and worse, was without remedy. For the blood flowed continually in great abundance. At last I returned to my house, where they had so long sought me to tell me the evil news. Hearing their tidings I ran in haste to her house, and when I had come there I was met with such a pitiful spectacle that my soul was shaken to its depth with a variety of conflicting emotions. After having regained my senses a little, I approached the bed, where my sister had just received the last Sacraments. She implored my help many times, saying that she had no hope unless from me. I learned from the midwife all that had passed, and she told me the opinion of the surgeon who had seen her more than two hours ago (for it was then quite six o'clock), and I saw that the blood flowed in abundance without ceasing. She had already lost more than three quarter measures and a dozen dishes full in the two hours that had passed since the surgeon had left her. Which blood would have remained in her body had she been delivered at that time, and would have saved her life. I saw also that from one moment to another she was seized with attacks of faintness which grew worse and worse, which told me that she was in greater peril than she would have been had she been delivered two or three hours ago, before she had lost all her strength with the blood which flowed continually. Desirous of knowing if it were true that she could not be delivered, I felt on examining her the internal orifice of the womb opened so that I could easily pass in two or three fingers. I then caused the midwife to examine her again to find out if the orifice were so when the surgeon had said she could not be delivered. She told me yes, and that it had always been in that state since he had left. When she had declared it so, I saw at once her ignorance and what it was that had troubled the surgeon. I told her I was astonished they should both have been of this opinion, as the matter seemed to me quite contrary, and that the surgeon could easily have delivered her then if he had wished, as easily as I could now. And in truth I should have done so on the instant, but my mind so long trembled on the resolution I was forced to take when I had lost hope of all other assistance. What hindered me was not the prognosis of the famous surgeon who had persuaded all those about her that she could not be delivered (for it is temerarious to resist the advice of those held as oracles), but the person of the sufferer who was my own sister and whom I loved very tenderly. So shaken was my soul with passion to see her die before me from a prodigious loss of blood, coming from the same source as my own, that I could not summon my resolution on the instant. This it was which caused me to send again in haste to the surgeon, praying him to return to the house, so that, showing him how easily the operation could be done, and making him confess that there is never any hope in such cases unless it is done at once, I might resolve him to deliver her instead of abandoning her to despair and her child to perish with her. But he would not return, however much one prayed and besought him, excusing himself always that there was nothing that could be done. When they told me this I sent to another surgeon I knew, with whom (if he had come in time) I could have agreed about the need for an operation, as I could have made him confess that it was possible. But by misfortune he could not be found at his house. During all these comings and goings a good hour and a half passed, during which time the blood flowed without ceasing, as also the faintings grew worse and worse. It was then that, seeing myself without hope of the help I had sent for, I took the resolution to deliver her at once. But it was in truth a little too late for the mother. For if I had had strength of purpose enough to do it as soon as I arrived, there was still then a good hope of saving her as I did the child.

* *Traité des Maladies des Femmes Grosses.*

Having put two of my fingers within the internal orifice of the uterus, I followed them with a third, and little by little with the ends of all the fingers of the right hand, with which I dilated the orifice enough to give passage to the whole hand. Which can be done easily on such occasions because the abundance of blood mollifies and relaxes the whole womb. When I had gently entered my hand I found that the child presented by the head and that the waters had not yet flowed away, which obliged me to break the membranes with the end of my nails. This being done, I immediately turned the child to take it by the feet, by which I drew it out very easily. And this I did in less time than it takes to count from one to a hundred. And I protest on my conscience that I have never in my life accomplished a delivery more promptly, more easily, and with less violence to the mother, who during the operation complained not the least in the world, though she had at the time good judgement and a full knowledge of what I did to her, but felt much relief after I had delivered her, and thereupon the loss of blood ceased.

The child I withdrew alive and it was instantly baptized by a priest who was in the chamber, but it was too late to save the life of the mother, who died an hour after from a fainting such as she had had before her delivery. The flow of blood in truth ceased, but too little remained in her to withstand the frequent syncope, which she assuredly could have done if this surgeon who saw her first had delivered her three hours before. For since that time she had lost without exaggeration more than twenty dishes of blood, and four or five of these would have sufficed to save her, seeing that she was a young woman of sound constitution suffering from nothing till she was seized with this fatal accident. She was delivered at seven o'clock in the evening, but because she had lost all her blood before the operation it was without avail, and she died an hour after, speaking always with

good judgement till the moment when she died, which was at eight o'clock the same day.

It is interesting to note the importance attached to the completion of delivery, throughout the narrative. Mauriceau was apparently unaware of the efficiency of the undelivered half-breech as a haemostatic plug. Though one shrinks a little from the idea of manually dilating a cervix with a placenta attached to it, yet, remembering the insistence of all these past masters of the art upon the utmost gentleness in manipulation, together with their own extraordinary dexterity, it is unlikely that they did much harm. At all events it was a great improvement on the policy of reaching for one's hat and sending for the priest.

Mauriceau goes on to impute the basest of motives to the surgeon. He does not believe that it was sheer ignorance which drove him precipitately from the lying-in chamber, but "qu'il fuit tant qu'il peut les accouchemens perilleux et sujets à mauvaïse suite; ce qu'il fit d'autant plus volontiers, qu'il se rencontra dans la chambre de ma sœur une Dame de consideration . . . laquelle il accouchoit ordinairement . . . il aima mieux se conserver l'estime de son ancienne pratique . . . que de faire chretienement son devoir." It is a horrible accusation, which one can only hope is false. Whatever the truth of the matter—and criticism after two and a half centuries should be charitable before all things—one cannot but echo most heartily Mauriceau's regret that he could not summon "assez de force sur mon esprit" himself to deliver immediately her "qui étoit ma sœur, que j'aimois très-tendrement." Not yet 21 and pregnant of her fifth child! Poor girl!

A. J. HAWES.

MEDICAL DEFENCE UNION

ANNUAL GENERAL MEETING

At the annual general meeting of the Medical Defence Union the president, Mr. E. Pearce Gould, moving the adoption of the report and financial statement, said the figures showed that during the last year the number of cases dealt with represented more than one for every ten members. The council, he continued, had added to the completeness of its representative character by the appointment of a vice-president who was a dental practitioner. It had also considered certain matters raised by criticism, and as a result there would be submitted to a later meeting that day revised articles of association, which embodied not only the requirements of recent legislation, but indicated more clearly than did the previous articles the current practice of the Union.

The meeting adopted the report and financial statement, and re-elected the retiring members of council, Dr. W. S. A. Griffith, Dr. V. A. Jaynes, and Mr. J. Furneaux Jordan.

REPORT OF THE COUNCIL

This report states that the number of new members elected was 1,080—an increase of ninety-six over the figure for the previous year—and that at July 19th, 1934, the total membership was 17,963. The assistance of the Union was invoked in 1,842 cases. In addition to the usual cases concerning fees and unpaid accounts, members sought legal guidance in such matters as the provision of x-ray examination for osteopaths and the sterilization of female patients. Following the discussion at the last annual meeting, the council was submitting for acceptance certain alterations in the existing articles of association, and also a new clause giving power to the council to undertake a case which had been begun prior to the date on which the member joined the Union but while he was entitled to the privilege of membership of some other society having objects similar to those of the Union. The report points out that while members are afforded protection in respect of claims made as a result of the act or omission of a locumtenent, whether that deputy is a member of any

defence society or not, the same does not hold good in the case of an assistant. The appointment held by the latter is more or less of a personal character, and it should always be possible for the member to ensure that the assistant becomes a member of a defence society.

REPORT OF THE SOLICITORS

The Union's solicitors (Messrs. Hempsons) emphasize the desirability of members taking advice from the Union as early as possible in any proceedings, particularly in cases of complaints under the National Health Insurance Acts. The report states that while representation by counsel or a solicitor is not permitted in inquiries before the Medical Service Subcommittee, a member is entitled to the assistance of the Medical Defence Union in dealing with preliminary correspondence, and this expert guidance in the initial stages often secures a more favourable result than would otherwise be obtained. A total of 148 cases was referred by the council during the year; twenty-six of the fifty-seven involving charges of negligence were a direct response to members' claims for fees, and fifteen of these were abandoned when the defendant learnt that the Union was concerned. Among the cases of alleged negligence were several claims for damages resulting from a swab being overlooked at operation, and a claim in respect of loss of sight against a member who, instead of referring the patient to his ordinary doctor or panel practitioner, gave wholly gratuitous and friendly advice. As regards the former, while the checking of swabs is, in the opinion of the solicitors, a nursing duty for which the nurse should be responsible, the court has not yet recognized this, nor has a clear-cut decision been obtained. Members attached to hospitals, therefore, should make sure that there is a reliable and accepted system for the checking of instruments and swabs.

The total income of the Union for the year 1933 was £19,026 11s. 9d., and the expenditure £16,044 4s. 5d.

AMENDMENT OF ARTICLES

At an extraordinary annual general meeting of the Union held the same day the revised articles of association, with certain amendments made by the meeting, were adopted.

New Zealand

[FROM OUR CORRESPONDENT IN WELLINGTON]

The Cancer Campaign

The annual meeting of the New Zealand branch of the British Empire Cancer Campaign was held in Christchurch, and the reports of its various activities received much public attention. The special research work at the medical school is to be continued for seven years under the direction of Dr. A. M. Begg. The cancer clinics, conducted once, or, in some instances, twice a week by the society in the larger hospitals, are most successful in attracting patients and in the results secured, which are steadily improving, and are a bright and encouraging contrast to those obtained less than a decade ago. The records and statistics have been most carefully prepared, and are now numerous enough to warrant the beginning of statistical research. At the time of writing Dr. Moran of Sydney, adviser on radiotherapy to the Government of New South Wales, has arrived in New Zealand, and, under the auspices of the New Zealand branch of the Campaign, will address medical men and also the laity on the cancer problem. He believes that as in some strange way civilization has brought greater susceptibility to the disease, so the evolution of man's intelligence must in time produce a cure. In the meantime, here as elsewhere, the medical profession, with all the means it possesses, must do its utmost to relieve suffering while researchers slowly track down the disease.

Influenza in Great Britain and New Zealand

The Director-General of Health for New Zealand (Dr. M. H. Watt) refers, in his annual report for the year ended March 31st, 1934, to the recurring question whether an epidemic of influenza in Great Britain is in due course, followed by an outbreak of the disease in New Zealand. He summarizes recent evidence, which indicates that while Australia and New Zealand follow each other closely in this respect, there is no such relation between Great Britain and the Antipodes. Indeed, for the period 1923-8 the curve for England and Wales takes a diametrically opposite course to those for Australia and New Zealand. Thus 1924 and 1927, peak years for England and Wales, were marked by a low incidence in Australia and New Zealand, while 1923, 1926, and 1928, with few influenza deaths in the former, proved to be years of heavy mortality in the latter. Subsequent to 1928, however, there is a general similarity between the curves, peak years and years of low incidence being the same for the three countries. The evidence, Dr. Watt considers, is altogether inconclusive; all that can be said is that influenza does not necessarily or even usually invade New Zealand from Great Britain. The period of time which separates the winter epidemics of the two countries further supports the belief that these seasonal outbreaks are purely local affairs, due not to any importations of fresh virus, but rather to a lighting up of an infection which is always present and continues to smoulder until it is activated by suitable environmental and biological conditions.

Infant Mortality and Expectation of Life

New Zealand's low death rate and high expectation of life have recently received added prominence from the use made of them by Drs. Dublin and Lotka, United States statisticians. The expectation of life in the male is 65 and in the female 68, and the comment is made that New Zealand has already come close to the possible top score in the present state of medical and sanitary knowledge. The mortality in the first year of life in the white

population of New Zealand is only 38.35 per 1,000 for males and 25.48 for females. The corresponding figures for the white population of the United States are 60.86 and 48.21. The report and commentary are a plea for close attention in all civilized countries to infantile mortality. As the child grows older it enters a zone of low mortality with a minimum of not much more than 1 per 1,000 per annum about the age of 10, and the opportunity for improvement here is small. Mortality figures again increase in later life, but they cannot be reduced by sure methods such as are available against infectious diseases and nutritional and other diseases of infancy. Some years ago Dr. Dublin prepared a hypothetical life table at a time when the actual expectation of life was 57, and he gave 63½ years as the expectation of life to be attained some time in the future in the United States, this estimate being based entirely on New Zealand figures. He now thinks that he was too conservative in his prognostication, and that an expectation of 70 is now attainable. It would appear, however, that the conditions of life on a continent such as America are not exactly comparable with the conditions on an island country such as New Zealand, and differ climatically, socially, and economically.

Doctors and Investments

Government Commissions are inquiring into the operations of nineteen interlocking trust companies in New Zealand, New South Wales, and Victoria. The evidence has caused what the newspapers call a sensation. One of these companies is known as the British Medical Investment Trust Limited, conveying a suggestion that it is connected with the British Medical Association—which is a compliment to the B.M.A., no doubt! A large number of medical men will probably now read with close personal interest the evidence given of the ramifications of investment companies, and the mysteries and secrets of high finance, and for a time will be highly discriminating in their choice of investments.

School Dental Service

An attempt is now being made to reach the country schools, often scattered very widely apart, by means of a new type of trailer dental clinic. The interior of the trailer car is 14 feet by 7½ feet, the walls are of steel, and the interior is smooth with rounded angles. Natural lighting is provided from a bay window, which forms one end of the car, but lighting and also heating are available from hydro-electric supplies, which serve even sparsely populated districts. The clinic is towed by a motor lorry or car.

India

Annual Meeting of the Assam Branch

The annual meeting of the Assam Branch of the British Medical Association was of exceptional interest this year, for it celebrated the union of the Northern Bengal Division with the Branch. As the retiring president, Lieut. Colonel J. Morison, director of the Shillong Pasteur Institute, pointed out at the dinner, since its inauguration in 1908 the Branch has had a fine record of public service. It initiated the movement that resulted in the building of the Pasteur Institute, and thus gave to Assam a fine centre for medical research. Its members had also started the campaign against kala-azar which was later so effectively developed by the Government. Moreover, it had actively supported the interests of the tea-garden coolies and of the skilled and experienced native licentiate. The Governor of Assam, Sir Michael Keane, added that

was not true sciatica; but it was certainly true "leg ache," and the pain was distributed along the branches of the sciatic nerve. Many used the terms "primary" and "secondary"; the term "true" was also used; but Dr. Burt urged that these terms should be abandoned. Putti, the Italian orthopaedic surgeon, had written the classical article on root sciatica, and had proved that it was a clinical entity, though his definition of "root" was slightly different from that usually adopted in this country. Dr. Burt had analysed his figures at Devonshire Hospital, Buxton, and had found that out of 140 cases 35.5 per cent. were of root sciatica, 17 per cent. of trunk sciatica, and 45.5 per cent. of referred sciatica. It followed that the average medical student learned his sciatica on the rarest type, while referred sciatica was lost in the mass of differential diagnosis. Dr. Burt claimed for his own classification that the groups were quite distinct: in most cases the diseases were entirely different, with different pathology, onset, and treatment.

The second problem he put to the meeting concerned differential diagnosis. Generally speaking, the symptoms of referred sciatica were less severe than those of sciatica belonging to the other groups. The pain was seldom constant, and often did not reach below the ankle. Sensory signs were absent, and although there might be some muscle wasting this was of the general type, due to disuse. Unfortunately, similar mild symptoms might occur in a mild case of root sciatica. It was a mistake to think that root sciatica produced more serious symptoms than trunk sciatica or referred sciatica. Putti regarded rigidity of the lumbar spine as a constant sign in root sciatica: there were two other signs which, although not constant, assisted the diagnosis—namely, tenderness along the lateral aspect of the lumbar vertebrae and distribution of pain along the external cutaneous nerve of the leg. This was not a constant sign, but when it did appear it put one on the track at once.

Dr. Burt's third problem related to the varieties of referred sciatica. Every textbook was full of sciatica caused by osteo-arthritis of the hip. To his mind this was a cause very much exaggerated. The only two cases out of the 140 which he had analysed having severe sciatica associated with osteo-arthritis of the hip were also cases of osteo-arthritis of the spine. Sciatica due to sacro-iliac disease was simply bristling with problems. A number of people had suggested that inflammation spread by direct contact from the sacro-iliac joint into the roots of the sacral plexus. This had been very carefully investigated. If there was swelling of the intervertebral joint it would press the nerve right against the opposite side of the bone, and in many cases the inflammation spread into the tissues in that way: thereby a root sciatica might become a trunk sciatica, the inflammation spreading down the roots into the trunk. It was a problem to him why sciatic pains were not found in spondylitis deformans. In practically every such case there was ankylosis of the sacro-iliac joint, and one would have thought that inflammation severe enough to produce ankylosis would be sufficient to give rise to sciatica. The most interesting of the referred sciaticas was that due to fibrositis of the gluteus medius and minimus, partly because it was not mentioned in the textbooks, and partly because it was easily cured if correctly treated. If one slipped on a rug or a parquet floor pain was felt just over the gluteus medius muscle, and one was likely to have a certain amount of sciatica. In driving a car with a seat that did not suit the leg a certain amount of sciatica was apt to develop by reason of strain on the gluteus medius. The greater part of these muscles was lying on the bone, and was covered by one of the firmest aponeuroses in the body. A branch of the superior gluteal nerve travelled along the surface of the ilium to supply the muscles. Any inflammatory swelling of the muscle in this confined space set up a pressure on the nerve, or possibly the nerve was involved in the inflammation, and the pain was referred to areas of the leg supplied by the fourth and fifth lumbar, chiefly the peroneal branch of the sciatic nerve. All these cases of sciatica got well quickly. Another problem concerned Lasègue's sign, the value of which was belittled by both Putti and Buckley. The sign was not of

pathognomonic value: it occurred only in two conditions—namely, trunk sciatica and the sacro-iliac condition. Two modifications of the sign might prove exceedingly useful. One was Dr. Mennell's modification, in which, as the leg was raised with the knee straight, the foot was extended or flexed; with the foot extended it could be raised a little higher in sacro-iliac trouble than in trunk sciatica. The other was what he called the "floor sign," in which the patient sat flat on the floor with his back against a wall. The back of the knee normally touched the floor unless he had arthritis (or acute trunk sciatica, in which case he could not sit down in that manner at all): the positive sign only appeared if there were adhesions. Out of his 140 cases only nine had a positive "floor sign."

Finally, Dr. Burt touched on the subject of treatment. Massage was of value in two classes of conditions. In the case of referred sciatica due to fibrositis of the gluteus medius early massage would effect a cure. If, however, the condition was not treated properly, and the unfortunate patient "worked it off," the inflammation spread to the fascia of the gluteus maximus and into the trunk sciatic nerve. The other condition that benefited by massage was sacro-iliac trouble. But massage must be given by careful prescription—gluteal muscles only, and bed for an hour afterwards.

DISCUSSION

Dr. WILFRID EDGECOMBE said that Dr. Burt's percentage of 45% as coming within the "referred" group related to hospital cases. In private practice the proportion of these cases was much greater—perhaps 65 or 70 per cent. The cases were easily curable: in the acute stage nothing but rest, heat, and large doses of aspirin; later, intelligent massage. More troublesome cases were those of acute toxic neuritis of the sciatic nerve: the pain was severe and constant, irrespective of movement, and the wasting of muscles was marked and dramatic. Dr. C. W. BUCKLEY asked whether it was true that pressure on a nerve fibre produced pain. Pressure produced first "pins and needles," then numbness of the parts affected, and, if a motor nerve was involved, muscular wasting; but it did not create pain. If there was pain it was due to pressure on that specialized organ, the nerve-end. Dr. A. R. NELIGAN drew attention to a form of sciatica which seemed to be connected with varicose veins in the leg, and to clear up when the veins were treated. As to massage in sciatica, one form which he had found extremely useful was the underwater douche. Dr. W. J. TURRELL related particulars of some cases of the radicular type, and Dr. ALASTAIR MACGREGOR referred to the value of mild faradic current in locating tender points in trunk sciatica.

AWARENESS IN PSYCHOLOGICAL MEDICINE

An extraordinary general meeting of the Medical Society of Individual Psychology was held at 11, Chandos Street, W.1, on October 11th, Dr. J. C. YOUNG being in the chair. The objects of the society were defined more exactly in the following resolution, which was adopted:

The objects of the society shall be: (1) to advocate and extend the general psychological approach to medicine, and (2) to promote the study and discussion of individual psychology. Membership shall neither require nor imply formal adherence to any particular school of psychology.

The chairman inaugurated the session by an address on "Awareness in Psychological Medicine," in which he said that the consciousness of the higher animals differed from the consciousness of the human animal in that the latter, in addition to the vital or organic memory common to both, disposed of a voluntary capacity for recollection not found in the other animals; notwithstanding, for example, the elephant's long memory for kindnesses and injuries. This recollection was a function of vital memory rather than voluntary recollection. Nevertheless, in so far as human voluntary recollection consisted in the last resort in the capacity to delay and to co-ordinate reflexes, depending somatically on a highly differentiated nervous organization of highly differentiated parts, the difference

between human and animal consciousness might be said to be only one of degree. There was no essential difference in kind. Similarly there were differences, as between man and man, in degree of human consciousness, almost amounting to a difference in kind. The higher degrees of consciousness implied higher degrees of integration with less liability to the disintegration or dissociation which was the essential feature in neurosis and psychosis. Dr. Young thought it useful to designate these higher degrees as "awareness." No sharp dividing line could, however, be drawn between awareness and consciousness. But awareness connoted a degree of self-awareness of motive and life goal which was deficient in the neurotic and practically extinguished in the psychotic. Awareness did not happen mechanically, nor could it be achieved by mechanical reading of textbooks. It required work on oneself and a certain disciplinary sincerity. Only in virtue of awareness born of experience recognized in himself of the psychological realities and mechanisms which had overwhelmed his patients could the physician in psychological medicine hope to cure or alleviate their sufferings of unawareness of dissociation and disintegration.

ADHESIONS IN ARTIFICIAL PNEUMOTHORAX.

At a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland, held on October 5th, Dr. GUSTAV MAURER, medical superintendent of the Sanatorium Guardaval, Davos, read a paper on a modification of the Jacobaeus operation for pleural adhesions in cases of artificial pneumothorax.

Dr. Maurer described the technique of his method for the examination and delimitation of adhesions with a thoracoscope, their transillumination with an instrument of his own design, and their enucleation from the chest wall. The advantages of this method were absence of shock and a great reduction in the incidence of post-operative complications, such as empyema, haemorrhage, and pleural effusion. More than eight hundred cases had been operated upon, with a mortality of less than 1/2 per cent. The paper was illustrated by lantern slides and x-ray plates.

The President of the Academy (Mr. R. A. STONEY) said that there was no doubt that the surgical treatment of tuberculosis was still in an adolescent stage in Ireland, and that no general attempt had been made to undertake surgical treatment as an aid to the management of cases of tuberculosis of the lungs. In connexion with the surgical treatment of tuberculosis the team spirit—the close co-operation of physician, surgeon, and radiologist—was most important. Every case should be carefully considered on its own merits, and no rule-of-thumb methods should be adopted. He believed that there was a great field open before the surgical side of the medical profession in regard to the treatment of tuberculous cases. The work was extremely technical, and the results obtained by Dr. Maurer, the x-ray photographs, and the description of the cases seemed to him almost miraculous. There was no doubt that this was, and always would be, work which required extreme knowledge, experience, and delicacy of technique. He would like to recommend to the younger generation of surgeons this large field of surgery in which they could exercise and develop their talents.

Dr. HAROLD QUINLAN said that in the out-patient department of the hospital to which he was attached he saw from 120 to 150 cases of pulmonary tuberculosis a year. Of these, about 66 per cent. were unilateral, and on that account a great number of them were suitable for pneumothorax. He had seen some cases in which adhesions had been cut, but thought that it was very difficult to find cases which were really suitable for this procedure. In some cases excellent results were obtained by thoracoplasty. He personally did not like interfering with adhesions unless they were very thin and fibrous in character.

Dr. W. R. F. COLLIS felt that this was a line of treatment, really more medical than surgical, which might be more widely adopted.

Dr. J. B. MAGENNIS confessed himself amazed to hear of the very successful results obtained by Dr. Maurer by the operation he described in cases which the majority of medical men would have looked upon as hopeless. Referring to the value of internal transillumination of adhesions, he said that, until one had interfered with an adhesion without knowing it, it was impossible to realize the importance of transillumination. He was interested to note that in Dr. Maurer's cases there had been so little reaction on the part of the pleura. He felt that the failure to make advances in the treatment of tuberculosis as rapidly in Ireland as in other countries was largely because there was no central hospital for tuberculosis. Many hospitals tried to keep a small ward only for tuberculous patients, but if there was one hospital only for tuberculous cases treatment would be much easier.

Dr. LEONARD ABRAHAMSON stressed the need for more adequate accommodation for tuberculous patients, and for better equipment and facilities in the existing institutions. He thought that small general hospitals were unsuited to the treatment of such cases. In regard to operative procedures, whilst definite advance had been made of late years, a little conservatism was indicated in contemplating such measures in a given case. Dr. A. R. PARSONS said that until he had heard Dr. Maurer's paper he had had very little faith in the procedure of division of adhesions, as he thought it was an extremely difficult operation, and one which was attended with great risk to the patient. Since hearing Dr. Maurer he had changed his opinion. Dr. Maurer had operated on 815 patients, and of these only three had died as a result of the operation—a mortality of less than 1/2 per cent. He considered this an amazing result for surgery, and he would like to congratulate Dr. Maurer on the extraordinary results he had obtained.

The President of the Section (Dr. V. M. SYNGE), in complimenting Dr. Maurer on his work, said that in some cases the cures were little short of miraculous. He was interested to notice the very small number of cases in which an exudate had occurred, and thought that this was very significant.

CHOLESTEROL AND DISEASE

At a meeting of the Pathological Society of Manchester, held on October 10th, Professor S. L. BAKER delivered his presidential address on "Cholesterol and Disease."

Cholesterol deposits, he said, might be either generalized, when they were of metabolic origin, or local, following local destruction of tissue. Arterial disease was the most important condition in which cholesterol deposits were found, and had been much studied experimentally. Several distinct processes were concerned in the production of the common forms of arterial hardening comprised by the term "arteriosclerosis." Of these processes the most important was atherosclerosis, characterized by the development of fatty (lipoid) streaks and patches and atheromatous deposits, particularly in the aorta and its main branches. Rabbits whose diet contained powdered cholesterol showed such lesions. Their development was due to the greatly raised blood cholesterol. The lesions were closely similar, both topographically and histologically, to those seen in human atherosclerosis. The type of lesion depended on the time the rabbits were allowed to survive. Fatty streaks and patches were early lesions, while raised patches with intimal fibrosis occurred later. Spontaneous atherosclerosis was very rare in the rabbit, but in man it was present in some degree in almost all subjects. The fatty (lipoid) streaks seen in children had been regarded as toxic effects, but it had been found that their incidence was correlated with age, and not with toxic conditions. It was probable that the slighter lipoid deposits might disappear, but deposits tended to increase with age.

In diabetes and the nephrotic type of renal disease, conditions in which hypercholesterolaemia was present, there was an increased tendency to atherosclerosis. There was no evidence that hypercholesterolaemia led to hyperpiesia, but increased strain on the arterial wall predisposed

to lipid deposits. Extensive atherosclerosis might be found in subjects not showing hypercholesterolaemia, but work on rabbits had shown that atheromatous deposits following a temporary rise in blood cholesterol remained in the arterial walls for long periods. The experimental evidence incriminating cholesterol in the production of atherosclerosis was abundant, but much further systematic work on the fluctuations of blood cholesterol in the human subject was needed to throw more light on the problem.

The address was copiously illustrated by Professor Baker's own preparations.

CORRESPONDENCE

Trauma and Pulmonary Disease

SIR,—The annotation on chest injuries and pulmonary tuberculosis in the *Journal* of October 13th (p. 689) emphasized once more the necessity of thorough inquiries into the immediate and remote results of chest injuries; and into the mechanics of the production of such extreme lung damage as recorded by Dr. E. G. Fenton in the same issue (p. 700), and lesions of lesser degree.

The inquiries might begin with the pooling of cases of trauma in connexion with pneumonia, empyema, haemoptysis, pneumothorax; and haemothorax, and cases of pulmonary tuberculosis directly caused or aggravated by injury. Physicians and pathologists to large hospitals and tuberculosis sanatoria, and many general practitioners, must have records of such cases. The criteria to be satisfied as to the association between trauma and subsequent disease might be considered by such a body as the Science Committee of the British Medical Association. A discussion on the mechanics by a body of physicists detailing their experiments would be not only a mental entertainment but of real assistance in visualizing the various degrees of lung disruption.

The results would be of considerable academic interest and of very great practical importance. Problems of diagnosis, treatment, and prognosis in the various conditions would be ventilated, and groups of definite cases placed on record which would be invaluable in workmen's compensation and medico-legal practice as well as in general medicine.

If the Science Committee could be prevailed upon to undertake the work I feel sure the members would have the cordial co-operation of all branches of the profession.—I am, etc.,

Wigan, Oct. 19th.

W. E. COOKE.

B.C.G. Vaccine

SIR,—In his recently published book *The B.C.G. Vaccine* Dr. K. Neville Irvine recommends (p. 62) the administration of 0.1 mg. of B.C.G. vaccine intradermally, and adds that the vaccine may be obtained free from the Institut Pasteur, Paris, by asking for "parenteral B.C.G."

The Pasteur Institute supplies three varieties of ampoules at present: (a) BCG, for oral vaccination soon after birth, containing 1 cg. of bacilli in 2 c.cm.; (b) BCG-NR, for oral vaccination in children older than 2 years and in adults, containing 5 cg. in 10 c.cm.; and (c) BCG-SC, for subcutaneous injection (the Pasteur Institute does not recommend the intradermal method); containing 1/50 mg. in 2 c.cm. To obtain a dose of 0.1 mg. one would therefore have to use 0.02 c.cm. of ampoule (a) or (b), or 10 c.cm. of ampoules (c). Clearly both of these alternatives would be impracticable.

Dr. Irvine must therefore have in mind B.C.G. emulsions prepared elsewhere. With those supplied by the Institut Pasteur, Paris, either a different dose or a different dose and another route than those he indicates

would have to be adopted. Incidentally, Dr. Irvine does not mention in his recommendation the fact that the vaccine must be used not later than ten days after its preparation—the earlier the better—a point well worth remembering in obtaining the vaccine from Paris.—I am, etc.,

Vejlefjord Sanatorium,
Denmark, Oct. 13th.

G. GREGORY KAYNE.

** A review of Dr. Neville Irvine's book appears this week at page 773.—Ed., *B.M.J.*

Pre-natal Cardiac Murmurs

SIR,—The letter from Dr. A. W. Johns (October 20th, p. 743), concerning a case of congenital heart disease diagnosed before birth, reminds me of a question that has long simmered in the back of my mind. I have had in the past certainly two cases—and I rather think three, but am not quite sure—in which I have found a cardiac murmur in the auscultated heart-beat of a foetus *in utero*; and in each case I confirmed the observation by repeated examinations. In none of the cases was there found any abnormality about the cardiac sounds of the newborn infants. The point I have long pondered is this. If the foramen ovale is patent in the unborn child, and the circulation passes through it, and if patency of the foramen ovale after birth causes a cardiac murmur, why does not every foetal heart-beat exhibit, on pre-natal auscultation, a murmur likewise?—I am, etc.,

Woolton Hill, nr. Newbury,
Oct. 20th.

HENRY ROBINSON.

Motor Backache and Neuralgia

SIR,—Some of your readers may perhaps be personally interested in a rather common form of postural strain, which may arise as the result of motor-driving from an inefficient seat over a prolonged period. In its milder grades this seems to be a widely prevalent source of discomfort, but the severer and more important forms are likely to be indifferently confused with such conditions as lumbago, rheumatism, and sciatica from other causes, and their origin lost sight of. The distinction is an important one from the aspects of prevention and possibly of treatment.

I must ask to be excused for quoting in detail my personal experience as a patient, but such description seems to afford explanation of the cause and of the symptoms which arise from this particular strain.

Rather more than six months ago I developed an unpleasant pain in the left buttock and across the lower part of the back, and early recognized that this was induced by motoring. It was accentuated by any attempt to flex the spine in the lower dorsi-lumbar region. Lateral, rotatory, and extension movements were quite free and painless, but flexion speedily became greatly affected. It was no longer possible to get near one's toes, and as time went on putting on shoes and socks became a painful difficulty. There was much other difficulty of a similar kind, although it was at this time possible to lead an active life in some ways hardly to have been expected. For example, it was possible to play tennis with comparative comfort, but then necessary to flex the right knee and get down with a stiff left leg when attempting to pick up a ball.

Such mild exercise and walking tended to lessen temporarily both pain and stiffness; later they might be accentuated. Standing and lying prone were both more comfortable than sitting, which on a hard chair was quite intolerable. Commonly, I took my meals standing, and wrote my letters lying on my face. At this time there were no descending leg pains.

It seemed possible that insufficient exercise, by reducing muscle tone, had contributed towards this disability, but this factor was recognized too late. A period of deliberately active holiday (in which, notably, swimming in sea water was easy

and completely free from pain) was followed by an increase of symptoms—distressing neuralgic pains in the course of the left sciatic nerve, reaching to the foot, and about the buttock to the level of the iliac crest in the region of the left anterior superior spine, and beside the sacrum and coccyx. Travelling in all forms had become most painful; particularly any vibration greatly added to pain. I have been reduced to sitting on the floor in a taxi, in order to get some relief from the support of the seat edge. Walking was reduced to a limp and, crippled to this extent, work had to be abandoned.

There was much stiffness of the lower part of the spine, and x-ray examination showed no obvious disease. Rectal and urinary examinations and lumbar puncture were normal.

Much earlier I had come to the conclusion that the cause of the condition was the inefficient disposition and form of the driving seat in my car. Many observations supported this conclusion—in early days the creation of a backache whenever I used it; later, the degree of relief which could be obtained from a properly placed air cushion, low down behind the right side of the sacrum. By inquiry from others—motoring friends and garage owners—I learned how commonly varying degrees of discomfort were complained of.

The driving seat of the car, looked at after the event, appears to be particularly designed to give trouble. It is of the "bucket" type, fitted with air cushions but with back and seat heavily raked so as to present the shape of the letter L, tipped backwards. Such an arrangement necessarily creates an unoccupied angle, resulting in inadequate support to the dorsi-lumbar region of the driver. Such a single bucket seat is subject to much enhanced vibrations, which no doubt increase the strain thrown on ligaments when muscles become fatigued; vertebrae then tend to sag and stretch the posterior aspects of the intervertebral joints.

Clearly it might be expected, as it was experienced, that flexion of the lower spine would give the maximum of pain. Exactly how pressure comes to bear on spinal roots and give rise to neuralgic pain is a matter for conjecture, but it is not surprising that it should so happen, and it may be due to local oedema and subsequent adhesion.—I am, etc.,

London, W., Oct. 21st.

G. H. A.

Residual Infection of the Jaws.

SIR.—Mr. Nodine's letter that appeared in the *British Medical Journal* of October 20th raises a number of very important points for consideration. It is undoubtedly true that the condition of residual infection of the jaw would almost be non-existent if the Novitsky technique was employed more generally, but until the dental profession is educated to the standard of Novitsky and his successors residual infection of the jaw will occur, and the clinical manifestations will be observed. Mr. Nodine has done a great service in calling attention to the possibility of preventing residual infection; he was the first person to introduce the Novitsky method into this country, and the profession owes a great debt of gratitude to him.—I am, etc.,

London, W.1, Oct. 19th.

R. S. TAYLOR.

Ether Convulsions

SIR.—I have read with interest Dr. Stanley Sykes's letter on the subject of ether convulsions, and would like to confirm his findings.

A child, aged 6, was being anaesthetized for tonsillectomy with ether vapour from a Shipway apparatus, the head being extended by a sandbag under the shoulders. After fifteen minutes anaesthesia convulsions were seen to commence in the leg muscles, and rapidly spread all over the body, the face being affected last. The operation was stopped and the anaesthetic discontinued, but the convulsions increased.

Eventually the head was raised through a right angle and the convulsions ceased immediately, and did not recur when the head was lowered a few minutes later. The operation was then completed and recovery was uneventful.

In this case the head was lower than the rest of the body, and the cerebral anaemia produced by raising it was almost certainly responsible for the cessation of the convulsions.—I am, etc.,

London, N.W.3, Oct. 22nd.

C. J. M. DAWKINS.

Death and the Survival of Rights of Action

SIR.—I think, with respect, that the learned author of your article under this heading, published on September 29th (p. 600), and Dr. Hugh Woods, who contributed a letter to your correspondence columns on October 6th (p. 658), much exaggerate the danger to the medical profession of the Law Reform (Miscellaneous Provisions) Act, 1934. Your leader-writer suggests that a surgeon whose patient dies on the operating table is open for six years to an action for negligence by the personal representatives (that is, the executors or administrators of the deceased's estate). This may, technically speaking, be true, but the practical risk is surely very remote. The Act specially provides that where personal representatives are suing for the benefit of a dead person's estate the damages must not be exemplary, and, when the death has been caused by the negligence, they must be calculated without reference to any loss or gain to his estate consequent on his death, except that a sum in respect of funeral expenses may be included.

In face of these limitations it is difficult to see quite what damages the personal representative can claim. The learned writer of a leading article in the *Lancet* (1934, i, 1177), so far from foreseeing damage to doctors from this source, protests that personal representatives will not even be able to claim the expenses of the hospitalization and treatment of the deceased, so that doctors and hospitals will once more go uncompensated. The widow and children can, of course, claim damages under the Fatal Accidents Act, 1846; they have been able to do so for nearly ninety years, but the harm done thereby to the medical profession has been negligible. Truly, they have only a year to make their claim, and the personal representatives have the six years allowed by the Statute of Limitations, but the personal representatives are so little likely to succeed in a stale action that few in all probability will make the attempt.

Your leader-writer's second hypothetical case, where a patient whose treatment has gone wrong subsequently dies for some other reason, has more substance, for here the negligence, if any, has not caused the death, and it seems that the personal representative may claim damages for injury to the estate due to such factors as the deceased's inability to earn and the expense of his later treatment and convalescence. But they would have to explain why the deceased had not thought it worth while to bring an action: they would be deprived of his evidence, and although they might prove the injury to the estate they would probably find such difficulty in proving it due to negligence that they would think very long and carefully before they ventured to go to court. "Londoner," in the *Evening Standard*, suggested recently in his Diary an even more fantastic case: that if a legacy of £500 had been left to an individual but on examination the estate was found to be insolvent, the legatee could then bring an action for damages against the doctor. It is sufficient to remark that this suggestion entirely neglects the provisions of the Act which I have quoted, and, in addition, at least three elementary rules of common law. The *Law Journal* (October 6th, p. 206) has dealt with it far more crushingly than I could.

The plain truth is that the Act was passed with one particular purpose in view. The Common Law contains a peculiar doctrine that the right of personal action dies with the person. The result was that when a negligent motorist injured someone and was himself killed in the accident the injured party had no redress. He could not sue the estate, and he could not even recover from the negligent one's insurance company. The Act sets right an intolerable injustice. It is a principle of law to give the same rights to both sides, and so the Act allows the personal representatives of an injured person who has died to sue in his place, but has very closely limited their right to damages—so much so that negligence actions by personal representatives are likely to be few and far between.

It is always possible to construct theories from legal doctrines and enactments, just as it is from philosophical premisses, but such inventions commonly have little if any relation to practical affairs. They are unfortunate when they tend to frighten unnecessarily a body of deserving persons who already have to face more than their share of real legal danger.—I am, etc.,

London, E.C., Oct. 23rd.

D. HARCOURT KITCHIN.

Publicity

SIR,—As one who has received a large amount of publicity in the lay press, may I say that so far as I know I have never been one penny the richer on account of it so far as my medical practice is concerned. I fully agree with Dr. Frank G. Layton that we are all guilty in one way or another of seeking publicity, and that, so long as a man does not profess to have some special treatment which he alone is capable of administering, it is all completely harmless.

Let us clear our minds of cant on this topic. Every article in the *B.M.J.* is an advertisement, intended to be read by the profession. These articles, and the personal recommendation of satisfied patients, are the only form of publicity that is likely to increase our incomes. Yet the *B.M.J.* is read by thousands of lay men and women throughout the country. It is one of the most popular journals in the free libraries, and anyone who has ever visited these public reading-rooms must have noticed old ladies poring over your columns for hours. If the *Journal* is only intended for the profession, why allow it to be circulated in free libraries? But for the old ladies many of us, by using the free libraries, might save our subscription to the Association, and if the old ladies are allowed to read the *B.M.J.*, what possible objection can there be to the newspapers selecting from your columns any matter that they consider to be of general interest to their readers?—I am, etc.,

London, W.8, Oct. 19th.

HALLIDAY SUTHERLAND.

** However much some medical men might wish us to do so, we cannot control the newspapers or the public libraries or the old ladies.—ED., *B.M.J.*

Whither General Practice?

SIR,—I would like to thank Dr. W. Savile Henderson for his letter in the *Journal* of October 20th (p. 742) and for ventilating what, I think, is a very general abuse. I may say that I have had an almost identical experience with the one he describes in Case 1, and, like him, received the same reply when I complained to the authorities. I have also had complaints from patients about welfare workers trying to force their way into the house to give advice on a variety of medical subjects without my knowledge or consent, and have been asked, indignantly, if I had sent them. This state of affairs

causes a loss of confidence between the family doctor and his patients.

I would like to suggest that the authorities should issue a strongly worded standing order to all welfare workers, that they must call on the doctor *before* they visit any of his patients, and discuss the case with him first. I have never had the courtesy of a visit from the welfare worker.—I am, etc.,

RUPERT PALMER, M.R.C.S., L.R.C.P.

Lydd, Kent, Oct. 21st.

SIR,—We must all sympathize with Dr. Savile Henderson in his discovery that not only lower-class but also middle-class patients are being inveigled away from the general practitioner to the public clinic, and in his plea for a remedy.

If Dr. Henderson read the report of the discussion at the Annual Representative Meeting at Dublin last year (*Supplement*, August 5th, 1933, p. 86) he will remember that it was stated there (by a member of Council) that infant welfare was educational work, and could not be done in general practice. So if Dr. Henderson accepts this view he will sit down and rejoice that the work which a mere general practitioner was unwisely attempting is being taken into the hands of people more competent to perform it.

If, on the other hand, as appears from his letter, Dr. Henderson does not adhere to this mediaeval theory, then he may accept my suggestion (*Supplement*, July 14th, 1934, p. 33) that the general practitioner is actually the person in the best position to undertake infant welfare, and let his patients know that he is able and willing to give them all that the public clinics can offer them as regards infant welfare. If he does, then I am sure that he need not fear the competition of the local authority.—I am, etc.,

London, S.W., Oct. 22nd.

F. GRAY.

Correction of "Medical Register"

SIR,—I am desired by the Returning Officer to say that voting papers for the purpose of the forthcoming election of a direct representative to the General Medical Council were issued on October 23rd to all registered medical practitioners having registered addresses in England and Wales; and that the authorities of the Council would be glad if every such practitioner who has not received a voting paper would communicate immediately with the Office of the Council (44, Hallam Street, London, W.1), whether or not he proposes to vote in the election, in order to ascertain that his address is correctly entered in the *Medical Register*.—I am, etc.,

MICHAEL HESELTINE,

October 24th.

Registrar, General Medical Council.

Universities and Colleges

UNIVERSITY OF OXFORD

At a congregation held on October 18th the following medical degree was conferred:

B.M.—G. H. Buck, J. P. Deysbury, C. M. Vaillant, A. B. Stokes.

UNIVERSITY OF CAMBRIDGE

The Vice-Chancellor announces that Sir Percival Horton-Smith Hartley, M.D., sometime Fellow of St. John's College, has conveyed to him through the good offices of the Regius Professor of Physic his desire to make over to the University, for the further endowment of the Raymond Horton-Smith Prize, securities producing an income of £20 a year. The foundation of this prize, for the best M.D. thesis in each academic year, is recorded on page 339 of the *Historical Register*. Sir Percival is the eldest son of the original donor and a brother of Raymond John Horton-Smith, whom the

prize commemorates. His gift would restore the former value of the prize, and would increase its value beyond the former amount if payment of dividends upon the present investments of the fund should be resumed.

At a congregation held on October 19th the following medical degree was conferred:

B.CHIR.—*M. A. Rugg-Gunn, *T. V. Tattersall, *A. R. R. Mears, G. T. Hindley.

*By proxy.

UNIVERSITY OF MANCHESTER

Dr. R. W. Fairbrother has been appointed lecturer in bacteriology, and Dr. J. C. Kerrin succeeds him as assistant director of the routine section of the Department of Bacteriology and Preventive Medicine. Dr. D. T. Robinson has been appointed assistant lecturer in bacteriology, and Dr. I. A. Cathie and Dr. James Davson demonstrators in pathology.

UNIVERSITY OF WALES

The following candidates have satisfied the examiners in the examination indicated:

DIPLOMA IN PUBLIC HEALTH.—(Part II): K. J. Grant, T. M. A. Lewis, J. C. R. Morgan, Elizabeth S. G. Owen, Jean J. Smith.

UNIVERSITY OF GLASGOW

A congregation was held on October 20th, when the following degrees were conferred:

M.D.—*W. S. L. McLeish, *C. Nicholson, Elizabeth J. Findlay, D. P. Leiper, J. Riddell.
M.B., Ch.B.—†R. C. Elitzik, †E. M. Rappaport, †J. D. O. Kerr, *M. Lazarowitz, *S. Smith, *H. Gillies, *J. H. Hutchison, *B. Joseph, *A. B. Semple, *C. L. Elder, *D. Gersten, *Gertrude I. R. Tannahill, *R. W. Carlsaw, *R. McL. Millen, *C. Slutsky, *D. Ferguson, *J. D. Fulton, *D. Livingstone, *E. L. Nicolson, R. H. Adam, G. H. Aitken, Eleanor M. Alexander, W. J. Barclay, J. Black, R. Black, W. M. Borthwick, J. F. D. Boyd, D. B. Brown, J. Brown, G. G. Browning, J. N. M. Chalmers, Janet M. S. Clark, G. B. M. Clarke, N. P. R. Clyde, M. X. Colby, G. C. Cooper, J. E. Craik, J. F. Diamond, D. O. Dickie, D. Douglas, R. J. Eadie, Sarah G. Fee, I. Felsen, A. G. Fergusson, J. D. Finlayson, R. E. Fletcher, S. L. Frank, N. A. Freebairn, L. D. Gardner, Helen M. Gibb, G. C. Gordon, J. M. Graham, J. R. Hendry, Agnes B. Herbert, J. Hodge, J. Hughes, G. Hunter, A. Hutchison, J. S. Jackson, A. Leitch, M. Levinson, W. Love, A. D. Lynch, A. F. McDonald, J. Macdonald, J. A. MacDougall, J. S. L. McGibbon, Ethelwyn M. McKendrick, A. McKenzie, Roberta M. C. MacLean, J. Macrae, W. Mallinson, K. H. Martin, W. J. Moffat, R. Murdoch, J. J. Murray, J. Parker, Marion A. Pearson, R. Pettigrew, J. D. Ramsay, J. D. Rankin, J. L. Rankin, J. A. Rankin, J. G. Roberts, J. B. McN. Runciman, Olive Scott, M. S. Segall, Ada M. Sewell, Helen S. C. Smith, N. Sragowitz, Jean W. Strang, D. F. Suttie, W. O. G. Taylor, R. A. Tennent, A. Thomson, W. Thomson, J. J. Tillie, J. A. Weir, J. B. Wilson.
* With commendation. † With honours.

R. C. Elitzik gained the Brunton Memorial Prize, awarded to the most distinguished graduate in medicine for the year 1934, and E. M. Rappaport gained the West of Scotland R.A.M.C. Memorial Prize, awarded to the candidate with the highest aggregate marks in medicine, surgery, and midwifery in the final M.B. and Ch.B. examination held during 1934.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Museum Demonstrations

The autumn course of museum demonstrations in the theatre of the College commenced on Monday, October 22nd, when Mr. C. E. Shattock showed specimens illustrating bone tumours. To-day (Friday, October 26th) Dr. John Beattie discusses the functional anatomy of the pituitary gland, and on November 2nd and 9th respectively he will deal with dysfunction of the anterior lobe of the pituitary gland, and the posterior pituitary problem. On October 29th Mr. Cecil P. G. Wakeley will discuss tumours of the intestinal tract, and on November 5th Mr. E. K. Martin will show specimens illustrating surgical diseases of liver and bile ducts. All the demonstrations commence at 5 p.m.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

At a meeting of the Royal College of Surgeons of Edinburgh, held on October 16th, with Dr. A. H. H. Sinclair, president, in the chair, the following successful candidates were admitted as Fellows:

F. Bartholomew, B. W. F. Bishop, E. Bourke, J. J. M. Brown, A. J. Cameron, H. F. Cameron, J. E. Ellison, J. Gerrie, R. N. Ghosh, E. J. D. Gillespie, H. R. Goldberg, S. W. Grimwade, G. C. Halliday, R. W. G. Kelly, A. B. Kerr, W. D. Macfarlane, C. W. McVicar, A. M. Marshall, G. G. Mowat, D. N. Wilson, E. C. Wynne-Edwards.

Obituary

PROFESSOR RAMÓN Y CAJAL

Santiago Ramón y Cajal died on October 18th at the age of 82. To most medical men in England his name has been familiar since their study of histology, but few have realized the greatness of his achievements. Of these perhaps the chief is the stimulus which he gave to scientific education in Spain, and the advances in educational methods which were based on his advice. How much of his thoughts were given to this subject may be gleaned from any of his more personal writings. The prefaces to his books show a complete devotion to science and a desire for recognition, not of himself, but of Spanish science. He was, in fact, the father of Spanish science, for no Spaniard before him had made any noteworthy contribution to scientific knowledge.

Cajal was entirely self-taught. His father, who was professor of anatomy at Zaragoza, first turned his attention to the structure of the human body, and his intense love of beauty and skill in drawing stimulated his interest in histology. He owed to Golgi's publications and to photographic methods the use of silver impregnation in histological work. But apart from Golgi he had no teachers. His first medical excursion to foreign lands was to demonstrate his preparations of the nervous system to the German Society of Anatomists. His life-work consisted in the application of his own methods to histology. How fruitful those methods can be in skilled hands has scarcely been recognized outside Spain, for few have taken the trouble to master all the variations in technique which are needed for different structures. In Cajal's hands and those of his pupils, however, they have resulted in a wealth of knowledge which only of very recent years, by the translation of his *Degeneration and Regeneration of the Nervous System* and his *Histology*, has found its way into the English language. His greatest work, *Textura del Sistema Nervioso del Hombre y Vertebrados*, which began to appear in Spanish in 1897, was translated into French in 1909. Unfortunately it has been out of print for many years, and is now difficult to obtain. Neuro-anatomists know it as the most complete and accurate account of the microscopical anatomy of the nervous system which has ever been written. But its most remarkable feature is that it is chiefly based on Cajal's own studies with silver impregnation techniques.

Since 1901 Ramón y Cajal edited the *Travaux du Laboratoire de Recherches Biologiques*, which was devoted to his own work and that of his pupils and associates. The prestige of this journal has always been high, and its publication in French of recent years has greatly widened its appeal. When he was elected a foreign corresponding member of the British Medical Association in April, 1934, he generously presented to the Association's Library a set of the *Travaux* for the years 1912 to 1933.

As a scientist Cajal ranks very high. Of his many contributions to knowledge few have had to submit to change. Perhaps his very isolation contributed to this result, as it made him observe things freshly with his own eyes and left him free from erroneous tradition. In fact, he insists in several places that his work is individual and Spanish, and deplors the fact that others, without troubling to read the Spanish literature, have re-discovered facts which he and his pupils had observed.

Cajal received abundant recognition during his life, a recognition which meant little to him, except the honour which it brought to Spain and the opportunities which it afforded for further work. He was professor of anatomy at Valencia at the age of 29 and for thirty years, up till 1922, professor of histology and morbid anatomy

at Madrid University. His early book, *New Ideas on the Structure of the Nervous System*, which appeared in 1894, was sold out in Spanish, German, and French editions by 1899. He gave the Croonian Lectures before the Royal Society of London in 1894, and received half of the Nobel Prize in 1906. On this occasion physicians of the Argentine raised a fund for the publication of a book by Cajal, and to this we owe his *Degeneration and Regeneration of the Nervous System*. In Spain also he was honoured by being made a life senator, and a magnificent laboratory in Madrid, El Instituto Cajal, has been erected as a permanent memorial of the man and his work.

We regret to announce the death, on October 10th, of Dr. Thomas Horton in his seventy-ninth year. Dr. Horton was trained as a pharmaceutical chemist, but at the late age of 35 he went to Durham University College of Medicine at Newcastle for his medical training. Two years later he entered University College Hospital, London. He qualified M.R.C.S. Eng., L.R.C.P. Lond. in 1894, and graduated M.B. (with honours) and B.S. at Durham University in the same year. He took his M.D. in 1896. He was Tulloch and Armstrong scholar at Durham University, and gold medallist in medicine and Erichsen prizeman at University College Hospital. He practised at Torquay for over twenty years with considerable success, and was honorary surgeon to the Torbay Hospital and honorary physician to the Western Hospital for Consumption. After his retirement he devoted himself to voluntary work for the Baptist Missionary Society, being successively chairman of the Medical Committee and chairman of the General Committee of that society. He was a keen member of the British Medical Association for some twenty years. His younger son was killed in the Great War. He is survived by one daughter and one son, who is in surgical practice at Weymouth.

Medical News

The centenary appeal on behalf of Charing Cross Hospital Medical School will be inaugurated on Thursday, November 1st, when Marshal of the Royal Air Force Sir John Salmond will distribute the prizes and give an address.

The Semon Lecture, 1934, on "Inflammation of the Maxillary Antrum and other Accessory Sinuses (Some Clinical Manifestations of its Pathology)," will be given by Mr. Herbert Tilley at the Royal Society of Medicine on Thursday, November 1st, at 5 p.m.

A series of lectures will be given at the Central London Throat, Nose, and Ear Hospital (Gray's Inn Road, W.C.), on Fridays, at 4 p.m., from November 2nd to March 29th (excluding December 28th).

Dr. George Barger, F.R.S., professor of chemistry in relation to medicine in the University of Edinburgh, will deliver a course of three lectures on "Chemical Questions Relating to Pharmacology," at the London (Royal Free Hospital) School of Medicine for Women, Hunter Street, W.C., on November 1st, 2nd, and 9th, at 5.30 p.m. Admission free, without ticket.

Dr. A. Goodman Levy will read a paper on "Criticisms of Some Aspects of Psycho-analysis from a Layman's Point of View," before the London Jewish Hospital Medical Society, at the hospital, Stepney Green, E., on Thursday, November 8th, at 3.45 p.m., with the president, Professor Charles Singer, in the chair.

A course of post-graduate demonstrations will be given at the Manchester Hospital for Consumption and Diseases of the Ear, Nose, Throat, and Chest, Hardman Street, Deansgate, Manchester, on Wednesdays, at 4.30 p.m., from October 31st to December 12th inclusive. All graduates and students of medicine are invited to attend.

The Fellowship of Medicine (1, Wimpole Street, W.) announces that further lecture-demonstrations will be given by Dr. Clark-Kennedy at 11, Chandos Street, W.,

at 2.30 p.m. on October 30th and November 6th. In the series of lectures on diet and dietetics, on Wednesdays at 8.30 p.m., at 11, Chandos Street, W., Dr. Leonard Findlay will speak on diet of infants on October 31st, and Dr. E. G. B. Calvert on diet of the diabetic on November 7th. Special demonstration of surgical cases by Mr. C. E. Shattock on November 10th, at 3 p.m., at the National Temperance Hospital, Hampstead Road, N.W. Special courses of instruction include neurology at the West End Hospital for Nervous Diseases, October 29th to November 3rd, all day; obstetrics at the City of London Maternity Hospital, all day, November 3rd and 4th; medicine, surgery, and gynaecology at the Royal Waterloo Hospital, November 5th to 24th, all day; chest diseases at the City of London Hospital, Victoria Park, November 5th to 10th, all day; urology at St. Peter's Hospital, November 5th to 17th, all day; venereal disease at the London Lock Hospital, November 12th to December 8th, afternoons; gynaecology at the Samaritan Hospital, November 17th and 18th, all day; proctology at St. Mark's Hospital, November 19th to 24th, all day; rheumatism at the British Red Cross Clinic for Rheumatism, Tuesday and Thursday evenings, at 8.30 p.m., November 20th to December 6th. A panel of teachers is available for individual tuition. Courses are open only to members and associates of the Fellowship.

Dame Louise McIlroy, who has been appointed assistant director and lecturer to the Clapham Maternity Hospital, Jeffreys Road, London, S.W., is now holding an ante-natal clinic there every Wednesday, at 10 a.m., and giving a weekly lecture.

The Lilly Research Laboratories at Indianapolis, U.S.A., were formally opened on October 11th. At the dedication ceremony addresses on "Research in Manufacturing Pharmacy" were given by Mr. J. K. Lilly, on "The Unpredictable Results of Research" by Dr. Irving Langmuir, on "The Early Story of Insulin" by Sir Frederick Banting, on "Chemical Ideas in Medicine and Biology" by Sir Henry Dale, and on "The Work of the Laboratories" by Mr. Eli Lilly.

It is announced that a committee, including Sir Charlton Briscoe and Mr. Cecil Wakeley, has been formed for the purpose of raising a fund to commemorate the late Miss M. E. Ray, R.R.C., of King's College Hospital. Miss Ray's association with "King's" began in 1889, when, on completion of her training, she was appointed sister of the Albert Ward. In 1896 she became assistant matron of the Leeds General Infirmary, and in 1899 matron of the County Lincoln Hospital. After being there for seven years she was appointed sister-matron of King's College Hospital, a post she held until 1918. For services during the war she was awarded the Royal Red Cross. In 1918 she retired from "King's," and took over the post of honorary secretary of Lady Minto's Indian Nursing Association. It has been suggested that the most fitting memorial to her would be the establishment of a fund to be devoted towards assisting "King's" nurses who are temporarily embarrassed, especially those requiring rest and convalescence after illness. Cheques should be sent to Miss M. A. Willcox, Sister-Matron, King's College Hospital, S.E.5.

The National Council of Women of Great Britain, at its annual meeting held in Edinburgh this month, unanimously adopted a resolution urging His Majesty's Government to require from local authorities strict compliance with their statutory duty to ascertain the number of mental defectives in their area, and to provide for them institutional accommodation and other appropriate means for their adequate care and protection.

On October 1st the British Legion took over, as a seaside annexe to the institution at Preston Hall, Douglas House, Bournemouth, which has hitherto been administered by the United Services Fund as a convalescent centre for tuberculous ex-service men. The institution is approved by the Ministry of Health, and will add seventy-five more beds to the number already available at Preston Hall.

Professor Pavlov, the world-famous physiologist and director of the biological station of Koltouchi, near Leningrad, has recently celebrated his 85th birthday.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to The EDITOR, *British Medical Journal*, B.M.A. House, Tavistock Square, W.C.1.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs. Authors over-seas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBER of the British Medical Association and the *British Medical Journal* is EUSTON 2111 (internal exchange, four lines).

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MEDICAL SECRETARY, Medisecra Westcent, London.

The address of the Irish Office of the British Medical Association is 18, Kildare Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumshugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

QUERIES AND ANSWERS

Treatment of Chronic Nasal Discharge

"M.S." writes: Could anyone suggest a hopeful line of treatment for this case of chronic rhinitis? The patient, a woman aged 25, has had the maxillary antra and frontal sinuses operated on, and, later, she tried a course of homoeopathic treatment. She states that the headaches are less severe and less frequent than they used to be, but there is still very copious nasal discharge. Should allergic reaction be tested, or would an autogenous vaccine or some form of light therapy be more helpful?

Age for Dick and Schick Tests

"O. M. H." writes: At what age should children be Dick- and Schick-tested and, if positive, actively immunized?

Localized Flushing

Dr. R. K. ROBERTSON (Sheffield) writes in reply to "H. H. B." (*British Medical Journal*, October 13th, p. 705): I once had a case of patchy areas of flushing in an otherwise healthy young woman, which responded quite well to the following mixture, taken thrice daily:

Quininae sulph. gr. j, acid hydrobrom. dil. m v, syr. aurantii q.s., aqu. q.s.

Treatment of Trichophyton Infection

A major of the R.A.M.C. writes in reply to "M.D." who suffers from trichophyton infection: I have a brother who is a chemist. He was out East in a district where medical aid was not forthcoming, and he got dhobi itch. Using his knowledge that the skin is a colloidal membrane, and that glacial acetic acid is known to penetrate a colloidal membrane, he applied to himself pure glacial acetic acid, with an immediate cure. When told of this, I asked if it was painful, and how it was applied. It appears it was not very painful. The acid was dabbed on with a small piece of cotton-wool held in forceps, and there did not appear to be any burning of the skin. I applied this treatment to myself when a bald patch appeared in my hair. Several of the usual ointments failed to stop it spreading. An immediate cure resulted. This might therefore be worth trying in the case of a trichophyton infection. I should advise a very cautious application to a small area, and watch the result before applying it liberally, as from the nature of the drug it is rather drastic.

Dr. WRIGHT LAMBERT (Brentwood) writes: If "M.D." and others infected with trichophyton will try painting the affected parts daily with 1 per cent. brilliant green in rectified spirit I think they will get more relief, if not actual cure, than by any other treatment.

Income Tax

Use of Private Residence

"E. J. N." owns the house in which he lives, and uses two rooms for consultation, etc. One maid is kept at the house, and "E. J. N." rents another house, where the main surgery is situated. What can he claim for the former premises?

** Seeing that most of the callers are apparently dealt with at the rented premises "E. J. N." will probably not be entitled to claim more than 1/3, or even 1/4, of the general expenses (rental value, light, maid's wages, etc.) of his residence.

LETTERS, NOTES, ETC.

Ernest Hart, 1836-1898

Sir D'ARCY POWER writes: E. V. Lucas, C.H., says in the October, 1934, number of the *Cornhill* (p. 410): "Ernest Hart was the founder of the *Lancet* and a great connoisseur of Japanese art." Surely the first statement should not go uncorrected.

** Mr. Lucas would not have fallen into this blunder if he had read Sir D'Arcy Power's memoir of Ernest Hart in the *Dictionary of National Biography*, or Sir Squire Sprigge's *Life and Times of Thomas Wakley*. Hart was born in 1836, thirteen years after Wakley founded the *Lancet*.

Thrush and Pyloric Stenosis

Dr. ROBERT CRAIK (West Ealing) writes: A boy, born in a maternity home, was well till the twelfth day, when he vomited. This subsided, and mother and child were discharged on the fourteenth day. At birth the baby (a first one) weighed 8 lb. 3 oz., and on discharge 8 lb. 2½ oz. I first saw him on the eighteenth day on account of vomiting. On the twentieth day he was no better, was constipated, and a swab from the mouth soon gave growth of *M. albicans*. Was it possible that his troubles were due to monilial gastritis? On coming home he was fondled by a large family, from one of whom he undoubtedly acquired the infection. His condition fluctuated, but there was no improvement in a week, and there was steady loss of weight. Suspecting pyloric stenosis, he was sent to hospital on his twenty-ninth day, weighing 5 lb. 15½ oz. on admission. He was operated on next day, made a good recovery, and was discharged at the age of 3 months, weighing 8 lb. 9 oz. At 7 months he weighed 16 lb. and had cut two teeth. Doubtless congenital abnormality is the important point, but the lumen is contracted to a varying degree. In this case I think the onset of serious symptoms was determined by the thrush infection, and possibly this is the explanation of the onset in not a few cases.

Myoidema

Drs. J. RONALD and N. C. F. MILNE write from the Royal Infirmary, Stirling: We have just read Dr. Broadbent's interesting memorandum in the *Journal* of October 13th (p. 679), in which he draws attention to the physical sign of myoidema. As members of what he describes as the "younger generation of doctors" may we point out that myoidema (more generally known as "myotatic irritability") is familiar to most Edinburgh students—undergraduates and graduates alike. We venture to suggest that Edinburgh does not stand alone among the teaching schools in imparting knowledge of the significance and diagnostic importance of this phenomenon.

The G.P.'s Nightmare

Dr. CHARLES J. HILL AITKEN (Kilnhurst, nr. Rotherham) writes with reference to the paragraph with this heading (October 20th, p. 754): I understand that, many years ago, the late Professor John Chiene had a cartoon of himself—a general surgeon—hanging on to the umbilicus, the only part left to the general surgeon by the specialist surgeons.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 44, 45, 46, 47, and 50 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 48 and 49.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 228.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

293

Acute Polyarthritis

K. MOTZFELDT (*Norsk Mag. f. Lægevid.*, August, 1934, p. 905) prefaces his study of acute polyarthritis with an analysis of all the rheumatic diseases treated in his hospital in the nine-year period 1924-33. Among the 10,000 cases were 615 of rheumatic disease, acute polyarthritis heading the list with 140 cases. There followed sciatica with 115, muscular rheumatism with 103, osteoarthritis with ninety-four, chronic polyarthritis with eighty-four, gonorrhoeal arthritis with thirty-five, lumbago with thirty-two, rheumatic fever (without articular manifestations) with ten, and arthritis urica with two cases. Ninety of the 140 patients suffering from acute polyarthritis were women. It was most common in the late winter and spring, and between the ages of 20 and 30; it was rare after 40. Of the forty-eight patients with a record of one or more earlier attacks of acute polyarthritis as many as twenty-five showed signs of heart disease. In only one case was there a history of exposure to cold—that of a boy of 15, who had betted that he could be out all one night in the winter. In no fewer than sixty-two cases (44 per cent.) the disease was associated with tonsillitis, and in ten other cases with a catarrhal infection without tonsillitis. Six patients developed their first attack of acute polyarthritis after they had undergone tonsillectomy. Since 1926 the sedimentation test has been systematically employed by the author and found invaluable in the clinical control of the disease. The sedimentation rate was never normal in this disease, and during convalescence this test was the only means of ascertaining whether the disease was smouldering or not. Before 1926 the average stay in bed was six weeks; since then it has risen to nine weeks in response to the warnings of the sedimentation test. Electrocardiography has convinced the author that heart disease is an integral component of acute polyarthritis, for which the best treatment is prolonged rest in bed. He does not regard salicylates as a specific.

294 Fatal Intoxication by Sodium Salicylate

G. PAISSEAU, E. FRIEDMAN, and C. VAILLE (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, July 16th, 1934, p. 1201) record a case (a child aged 10 years) of rheumatic endocarditis in which, after five days' salicylate treatment (2 grams intravenously and 5 grams rectally), symptoms of intoxication, due to an acidoketosis of salicylate origin, together with renal insufficiency, developed. Despite intensive alkalization death occurred three days later. The post-mortem revealed discrete renal lesions and massive fatty degeneration of the liver. Two peculiarities were noted in this case (*ibid.*, p. 1211): a lowering of the cell-plasma chlorine ratio and hyperglycaemia. Insisting on the rarity of death following this medication, the authors suggest an individual predisposition as a factor. They still advocate large doses of the salicylate, but advise that double doses of sodium bicarbonate be given simultaneously. Examinations for acetonuria should be made systematically. The salicylate should be immediately suppressed, and large intravenous and rectal doses of sodium bicarbonate administered at the onset of the intoxication; insulin may be added if hyperglycaemia appears with the acetonuria, and rechlorination instituted if a blood chloropenia be present.

295

Generalized Xanthomatosis

According to K. HERMAN (*Munch. med. Woch.*, July 20th, 1934, p. 1100) the Hand-Schüller-Christian disease, of which Christian was the first to describe the characteristic symptom-complex (skull defects, exophthalmos, and diabetes insipidus), was first recognized by Rowland in 1928 to be a manifestation of generalized xanthomatosis with hypercholesterinaemia. This rare metabolic disease,

of which some seventy cases have been recorded, and which was practically unknown in Europe until six years ago, is characterized by infiltration of certain organs by a special type of granulation tissue, containing cells filled with cholesterol. The gastro-intestinal tract is least commonly affected. The Hand-Schüller-Christian syndrome is simply one specially common group distribution of xanthomatosis. The affection of the skull in "cartographical" areas is characteristic, but is frequently absent, so that diagnosis is difficult. The hypercholesterinaemia may diminish considerably in old-standing cases. The prognosis is worse in juvenile cases, and the average mortality is 30 per cent. No racial or hereditary factor is known with certainty: Herman's case was recognized from (1) ulcerative tumour-like bluish-red cutaneous infiltrations of the thighs, (2) diabetes insipidus, (3) areas of xanthoma on the eyelids, and (4) blood cholesterol increased to 320 mg. Successful treatment consisted in α -radiation of the thighs, injections of hypophysin, and reduction of fat intake.

Surgery

296 Apparent Recurrences after Renal Calculus Operations

F. MORL (*Zentralbl. f. Chir.*, July 14th, 1934, p. 1648) remarks that with improving radiographical diagnosis and less frequent splitting of the kidney at operation mortality in renal calculus has been diminished, but subsequent recurrences have increased. These apparent recurrences—reported by some to reach 50 per cent.—are nearly always due not to new stone formation but to an existent stone being overlooked at operation. Their increased frequency is attributable to (1) the present tendency to place too much reliance on radiology, which in 10 per cent. of cases fails to show a stone or one of several stones which are present; (2) the employment of simple pyelolithotomy in cases not suited to its relatively narrow true scope; and (3) digital investigation being done without rubber gloves having been previously discarded. The surest preventive of "recurrence" is α -radiation before the operation is concluded. Next in importance, Morl believes, is the search with the ungloved hand: he relates the histories of four cases in which stones impalpable through rubber gloves were detected by the bare fingers.

297 Causes of Death after Appendicitis

S. MÜLLER (*Hospitalstidende*, July 24th, 1934, p. 34) has analysed the causes of the sixty-one deaths occurring during eleven years among 1,087 patients on whom appendicectomy was performed for acute appendicitis. Among the forty patients whose death was due to peritonitis were twenty-four whose admission to hospital was tardy. In all of the latter there was an interval of forty-eight hours or more between the onset of the symptoms and admission to hospital. In most instances medical aid had been sought too late, but in an indeterminate number the medical practitioner was responsible for the delay. In this connexion the author mentions the tendency of appendicitis to begin acutely and then to run a more or less "subterranean" course for the next two or three days, after which it flares up again. Among the forty peritonitis fatalities there were, however, eleven patients who had been admitted to hospital within the first twenty-four hours. In the remaining five cases of fatal peritonitis the operation had been deferred for some time for various reasons. There were nine deaths from sepsis which in six cases developed after an attack of peritonitis had subsided. There was only one death from subphrenic abscess. Embolism of the pulmonary artery and septic infarct each accounted for two deaths, and pyelophlebitis and emollitio cerebri each for one death. There remained five deaths from intestinal obstruction, and in connexion with these cases the author is inclined

to wonder if such fatalities may not be reduced by the avoidance of extensive drainage. He himself has not extended drainage beyond the right iliac fossa, and he is inclined to ask if even such limited drainage may not be excessive and provocative of ileus.

298

Ricard's Amputation

In certain injuries of the foot TONDEUR (*Le Scalpel*, July 21st, 1934, p. 1013) prefers Ricard's to other better-known amputations. This operation, in which the os calcis is conserved, consists essentially of inter-tibio-calcaneum disarticulation, astragalectomy, and the placing of the os calcis in the tibio-fibular mortise, thus forming a new joint; finally the extensor tendons and the plantar muscles are sutured together, and the plantar and dorsal flaps. Astragalectomy lessens the bony mass to be covered and increases the size of the dorsal flap and the relative length of the Achilles tendon. Conservation of the os calcis provides a normal heel and gives absolute steadiness to the stump. Both measures prevent ultimate equinism. The primary incision varies with the extent of the injury; if made at the calcaneo-cuboid articulation, excision of successive layers of the os calcis is necessary; if only 3 cm. in height of this bone is conserved, very good results are still obtained. The advantages of a Ricard amputation are: only slight shortening of the limb and the formation of a painless, mobile, well-covered stump. It is indicated in trauma, in tuberculosis of the medio-tarsal articulations, and in correction of useless stumps. Details of a case with a full description of the operation are given.

299

Cystin Stones

W. POLLAK (*Zeit. f. Urol.*, July, 1934, p. 480) draws attention to recent reports of cystinuric subjects who, although excreting cystin in solution, have no cystin sediment in the urine and no stone formation in the urinary tract. Scepticism therefore seems justified concerning cases in which a familial cystinuria is denied because a family history of stone is not obtainable. He describes two cases in which cystin stones cast excellent shadows on the x-ray screen (equally as dense, in one case, as contralateral phosphatic oxalate stones of the same size). These and numerous similar cases from the literature appear to shatter the older statements that cystin stones cast faint shadows or none at all. In one of Pollak's patients cystin stones had existed in both renal pelvises since childhood; their removal in the third decade, after the establishment of chronic urinary infection, was followed by repeated production of stones consisting of calcium oxalate, calcium phosphate, and triple phosphates.

Therapeutics

300

Treatment of Hiccup

E. C. NOBLE (*Canadian Med. Assoc. Journ.*, July, 1934, p. 38), discussing the aetiology and treatment of hiccup, draws attention to the great variety of causative factors, and states that various remedies may be effective in different cases. In cases when the hiccup is associated with infection of the upper respiratory passages, the throat may be sprayed with a 2 per cent. solution of cocaine, and a 20 per cent. solution may be applied to the larynx, warm alcohol being slowly dropped into the trachea. The local application to the nasopharynx of menthol or cocaine may also be effectual. If it is due to the constant, direct, or reflex stimulation of the phrenic nerve in such cases as mediastinal new growth or diaphragmatic pleurisy, the only therapeutic measures of any avail will be those which depress the sensitivity of the nerve endings or central nervous system to such a point that conduction is interrupted, or which involve the actual crushing or severing of the nerve. Drugs worthy of trial, but usually in maximum doses, are atropine, luminal, nembutal, the bromides, chloral, hyoscine, morphine and its compounds, heroin, nitroglycerin, and quinine. Noble has had good results with sodium amytal in prolonged hiccup. A dose of 7 to 10 grains is given intravenously, or until the

patient becomes unconscious during its administration. The effect is immediate, and lasts usually from two to six hours, when it may be repeated. On account of its tendency to produce pharyngeal paralysis, the patient must be kept constantly under observation. When hiccup arises from the gastro-intestinal tract, removal of the cause is indicated; the induction of vomiting will often suffice, but, if not, gastric lavage with alkalis should be a routine procedure. This is particularly the case in post-operative hiccup arising early. After lavage, various stomachics or anodynes may be used, such as the tinctures of capsicum or belladonna, chloroform, benzyl benzoate, ginger, peppermint, and chloroform. In the infectious type of hiccup described by Mayo and Rosenow an antibody globulin solution was effective in cases in which a specific organism was isolated. After an initial desensitizing dose, 2 to 5 c.cm. was injected intramuscularly two or three times daily, one dose being found effective sometimes in stopping the symptoms. Caution is advised in the application of surgery involving the phrenic nerve on account of the potential risk of hypostatic congestion following paralysis of the diaphragm.

301

Acetylcholine in Hemiplegic Seizures

By statistics and personal cases F. SCICLONOFF (*Presse Méd.*, July 14th, 1934, p. 1140) shows that acetylcholine therapy greatly improves the chances of cure or marked amelioration in cases of hemiplegic attacks due to recent cerebral softening, and even in those of some days' duration and definitely established. Four illustrative cases are recorded. He injects daily for at least twenty days, or until results are obtained, 10 to 20 cg. of the hydrochlorate. For ten days during each of the three following months preventive doses of 10 cg. are given, and subsequently similar doses every two or three months. Treatment, which is more efficacious in younger subjects, should commence as soon as possible after the seizure. The injections are painless, and no signs of idiosyncrasy or intolerance have been noted. Numerous authorities practise this method also in seizures following cerebral haemorrhage and thrombosis. The favourable results obtained are thought to be due to the vaso-dilatory action of the drug on the cerebral arteries, and to its peripheral vasomotor action.

302

Cibalgin Suppositories after Operations

J. BETZNER (*Deut. med. Woch.*, July 13th, 1934, p. 1053) reports from a hospital in Düsseldorf his experiences with cibalgin, which has hitherto been given only by the mouth or by injection. The suppositories he has used have each contained two tablets of cibalgin or the equivalent of 0.44 gram dimethylaminophenazone and 0.06 gram dial. A suppository was inserted on the evening of the second day after an operation or accident instead of an injection of morphine. In 90 per cent. of all the cases the patients were rid of pain and other symptoms, but about 40 per cent. missed the hypnotic effect of the injection of morphine they had received on the first night. To remedy this defect the author inserted a second suppository three hours after the first. The patients then fell asleep about half an hour later, and next morning they did not complain of any symptoms referable to the heart or intestines. There was no excitation phase, nor that intestinal paralysis which is apt to follow the administration of morphine or one of its derivatives, particularly after an abdominal operation. The suppositories also eliminated the risk of morphine addiction. They were successful in all the cases of dysmenorrhoea and other gynaecological ailments given conservative treatment, both headache and pain disappearing in about half an hour. The pain of pleurisy was also relieved, but the results were less satisfactory in cases of biliary colic, for which the intravenous and intramuscular injection of this drug may be more suitable. In chronic diseases such as osteomyelitis and purulent arthritis requiring prolonged treatment, cibalgin in a suppository was found an effective and harmless substitute for morphine. The author publishes a tabular analysis of the 119 cases treated with cibalgin suppositories, whose use was never followed by addiction or other harmful consequences.

Neurology and Psychology

303 Statistics of Disseminated Sclerosis

H. C. GRAM (*Ugeskrift for Læger*, July 26th, 1934, p. 823) has studied the distribution of disseminated sclerosis in Denmark, his material consisting of the 689 patients who applied for insurance-benefit on account of this disease under the national insurance scheme. Most of these patients had been subjected to an expert medical examination, neurological and otherwise, and there could therefore be little doubt as to the accuracy of the diagnosis. There were only a few cases presenting the Charcot triad, alone or in conjunction with other signs, and the features common to most were spastic paraparesis and ataxia. There were 312 male to 377 female cases, and the age at which the symptoms began was between 20 and 40 in as many as 494 cases. In view of the growing tendency to regard disseminated sclerosis as an infection, and encouraged by the geographical studies of J. Wilson in England, the author has charted all his cases geographically, and has thus succeeded in showing that the disease tends to be comparatively common in some areas and non-existent in others. This irregularity of distribution was even more marked than in the case of the three other diseases hitherto geographically studied by the author—asthma, leukaemia, and polyarthritis. In the towns of Copenhagen and Frederiksberg there were only twenty-four cases per 100,000 insured persons, whereas the corresponding figure for rural areas was fifty-one. The author offers no explanation for the comparatively low incidence of this disease in large towns, nor for its tendency to bunch in certain areas while giving a wide berth to others.

304 Sclerotic Atrophy of the Cerebellum

G. B. HASSIN (*Arch. Neurol. and Psychiatry*, June, 1934, p. 1205) records two cases of sclerotic atrophy, the patients being women, and aged respectively 27 and 32. In both the pathological process was limited to a few lamellae of the cerebellum, all the nerve elements being degenerate and replaced by glial tissue. As in amyotrophic lateral sclerosis the pathological change is nuclear, but in that disease the system of ganglion cells of the nuclei of the motor cranial and spinal nerves is involved, while in this form of cerebellar atrophy the degeneration involves the system of Purkinje and other ganglion cells which make up the strata of this organ. The cause of the degeneration is unknown; in one of the author's cases the disease was associated with leukaemia, and in the other with dementia praecox. Hassin believes that cerebellar atrophy may be an acquired morbid condition, and in long-standing cases may result in sclerosis of parts of the cerebellum (sclerotic atrophy). The lateral lobes, especially the upper semilunar and the quadilateral, may alone be involved, or they may be affected together with the vermis. The cerebellar atrophy resulting from sclerosis has its homologue in the cerebral atrophy and sclerosis known as Pick's disease, and is characterized by no special histological features. The striking pathological manifestation is calcification of the Purkinje cells in the areas that are undergoing atrophy. The clinical signs cannot be considered specific, and, since they may be absent, a pathological condition of this kind cannot be diagnosed during life. In the author's two cases the upper and lower vermis escaped, and the changes were limited to the upper or anterior lobes of the cerebellum. In some cases in the literature the pons, olivary bodies, and red nuclei were also involved.

305 Ocular Paroxysms and Palilalia

L. VAN BOGAERT (*Journ. Nerv. and Ment. Dis.*, July, 1934, p. 48) considers it proved that oculogyric spasms, one of the most significant symptoms of the inhibitory states observed in encephalitis, indicate a condition which extends far beyond the ocular localization, and presents a whole extrapyramidal, psychic, and sympathetic symptomatology. He records a study of the relation of these crises to phenomena of iteration and speech inhibition,

considered in their widest psychomotor interpretation as well as in their expression. He gives details of three cases, having in common the fact that speech difficulties occurred in Parkinsonian patients in connexion with ocular paroxysms. In one instance true palilalia began and ended simultaneously with the ocular movements; in the second the tendency to reiteration appeared when reading, and extended to the beginning of true palillexia, differing from echopalilalia in its expression only in words unspoken but read silently; in the third the palilalia was not always present during the attack, the Parkinsonian patient with mutism having the verbomotor mechanism set free by the oculogyric crisis, thus producing palilalia. Repetition of words, whether written or spoken, did, in some instances, arrest the eye symptoms. The author mentions the strong erotic content observed at the onset or recurrence of these crises, and suggests that a greater wealth of affective material is hidden behind these psychomotor phenomena than is generally suspected, but he does not believe that they are always and necessarily the equivalent of erotic expression. He recalls the fact that anxiety is the state most conducive to such crises. He regards the oculogyric attack as an inhibitory crisis, revealing an innate antagonism between a general and a localized inhibition, which is deserving of greater attention than it has yet received.

Obstetrics and Gynaecology

306 Gynaecological Tumours and Sterility

M. PELLEGRINI (*Ann. di Ostet. e Ginecol.*, June 30th, 1934, p. 825) reviews the literature on the relation between tumours of the genital organs in women and sterility, and records his observations on 134 cases of genital tumours admitted to the obstetrical department of the Ospedale Maggiore at Bergamo during the period April 1st, 1931, to March 31st, 1933. His conclusions are as follows. Tumours of the uterus and ovary occur with equal frequency among fertile and sterile women. Carcinoma of the uterus shows a predilection for fertile women, while primary malignant tumours of the ovary are most frequent in sterile women with congenital utero-ovarian hypoplasia. On the other hand, benign tumours of the ovary and uterine fibroids are much more frequently met with in fertile than in sterile women. Finally, there is no evidence that the development of gynaecological tumours is caused or favoured by endocrine disturbance of the sexual glands, apart from primary malignant ovarian neoplasms.

307 Treatment of Sexual Frigidity in the Female

E. B. RIES and A. S. PEREIRA (*Semana Médica*, June 14th, 1934, p. 1882), having investigated over 300 cases of alleged sexual frigidity in women, found that 60 per cent. suffered from sexual indifference, 10 per cent. from dyspareunia, 20 per cent. were in all ways normal, and 10 per cent. arrived at sexual relations by previous excitation of the automatic centre through masturbation, or by perusal of licentious literature, and were "erotics" with a pathological exaggeration of the orgasm. The writers found that Narjani was wrong when he stated that if the clitoris is more than 2 cm. from the urinary meatus, coitus fails to gratify the female. Many of their cases disproved his theory. They place the frigid in three categories: (a) cases in which there is both anaesthesia and absolute repugnance to sexual contact, (b) those with anaesthesia, but with only relative repugnance, and (c) the merely indifferent. The latter are the most numerous. The authors believe that the great majority of females are frigid because of the behaviour of the male partner, who reserves to himself all indulgence of sex feeling and compels the woman to restrain her normal impulses and to adopt a regimen of physical impotence which completely blunts them. In not a few of the cases quoted, the authors found it useful to instruct the husbands. They state that the anterior lobe of the pituitary gland has an outstanding effect on the orgasm, which it accentuates in the normal

and begets in the frigid, always provided that this frigidity is not due to an organic lesion. The contents of one capsule, or more rarely of two, were administered by the subcutaneous route daily. As a rule some improvement was noticed in a week or two, but in some cases it was found necessary to administer as many as sixty capsules before a conclusive result was obtained.

308 Cancer following Subtotal Hysterectomy

E. VON GRAFF (*Amer. Journ. Obstet. and Gynecol.*, July, 1934, p. 18) commends total hysterectomy for general use, reserving the subtotal form for selected cases, because he believes that a patient with an amputated uterus is menaced for the rest of her life by the possibility of cancer of the cervix. He cites statistical evidence showing that cancer of the stump was the lesion in 8.3 per cent. of 263 cervical carcinoma cases, and 6.3 per cent. of 344 cases of carcinoma of the uterus, demonstrating therefrom that removal of the stump together with the body of the uterus would have resulted in a considerable decrease in the incidence of cervical cancer. The author believes that undue importance is attached to lacerations of the cervix and cervicitis following childbirth as aetiological factors. He cites evidence that Jewesses are protected by racial immunity against cancer of the cervix—a fact, he thinks, which may explain somewhat the prevailing conflict of opinion as regards the danger and frequency of stump cancer following subtotal hysterectomy. A common concomitant of cervical cancer is the presence of fibroids in the uterus. Failure has attended attempts to prevent stump cancer by destroying the cervical mucosa, because more than 80 per cent. of these cases originate from the squamous-cell epithelium of the vaginal portion of the cervix. Even the most elaborate excision of the mucosa, including the muscular wall, will not prevent it. Nulliparous as well as parous women may be affected, and the age of the patients has no particular significance. Von Graff argues that, since considerably more than half of the patients with stump cancers die, these losses should be taken into consideration when comparing the mortality rates of the total and subtotal operations.

Pathology

309 Experimental Chronic Peptic Ulcer from Caffeine Administration

H. HANKE (*Klin. Woch.*, July 7th, 1934, p. 978), experimenting on cats, was able to produce chronic gastric ulcer similar in all respects to that in man. Caffeine sodium salicylate 2 to 3 grams was injected subcutaneously daily. The cats were given a large meal at night, the remains of which were removed in the morning. The injection was given at noon, so that they fasted four hours prior to, and six hours after, each injection. Eight of the ten experimental cats died spontaneously, but in two characteristic ulcers were found at the end of two months: two control cats, fed in the same manner but not receiving injections, showed no signs of ulcer. Hanke believes that the ulcers were undoubtedly produced by the caffeine acting on an empty stomach and eroding the mucous membrane. The continual ingestion of large doses of caffeine has, he thinks, the same effect on human gastric membrane, producing a peptic gastritis, due to excessive production of gastric juice on the mucous membrane of the empty stomach, and leading to chronic peptic ulcer.

310 Spirochaetes of the Mouth

R. VINZENT and M. DAUFRESNE (*C. R. Soc. de Biol.*, 1934, cxvi, 490) record briefly the results they have obtained in classifying the buccal spirochaetes. Working on the belief that a proper classification would be possible only when these organisms had been studied in pure culture, they proceeded to isolate spirochaetes from the mouths of patients with pyorrhoea and stomatitis. Using a medium made up with serum, agar, and a fragment of tissue under

a seal of vaseline, they isolated eleven strains of spirochaetes. These strains have been provisionally classified into six groups, labelled A to G. Group A is not yet identified. It differs from B in the greater motility and suppleness of the organisms morphologically, and in the absence of a fetid odour in culture. Group B corresponds to *Sp. microdentium*, and is the easiest of all to cultivate. Group C corresponds morphologically to *Sp. skoliadonta* (Hoffmann) and probably to *Sp. acuta* (Seguin). Group D is certainly identical with *Sp. trimicrodonta* (Hoffmann) and *Lepto. buccalis* (Fontana), though it is not a true leptospira. Group F is a large group, and corresponds to *Sp. macrodentium* (Noguchi). Group G is also an important group, but so far only one member has been isolated, which apparently belongs to the species *Sp. buccalis* (Cohn). This organism, which under dark-ground illumination appears as a large spirochaete with a double contour, and which is abundant in Vincent's angina, has not yet been obtained in pure culture, though it has been cultivated for many months in association with other organisms. The detailed description of these various organisms will be given in a subsequent paper.

311 Apparatus for Detecting Free Gastric Acid

A method of testing for free acid successive samples of gastric contents, withdrawn by controlled suction is described by H. NECHLES and L. SCHEMAN (*Journ. Amer. Med. Assoc.*, July 14th, 1934, p. 107), who point out that by ordinary methods of examination a small quantity of free hydrochloric acid escapes detection, having been neutralized by mucus after withdrawal. The apparatus consists of a glass T-tube, the vertical limb of which is wide enough to hold a stopper with a bore, through which is passed the lower end of a burette filled with Töpfer's reagent. One end of the T-piece is connected to a suction device, with a mercury manometer and needle valve, while the other is joined to the stomach tube. Small sealed glass tubes with various concentrations of hydrochloric acid and reagent may be attached along the horizontal part of the tube for comparison. As the suction begins to work and the stomach contents appear in the T-tube, drops of Töpfer's reagent are allowed to fall on them from time to time, and the colour reactions are noted. Mucus, bile, and pure stomach juice can thus be tested separately before admixture and consequent neutralization. In this way the authors have been able to demonstrate free acidity in eighteen out of twenty patients with subtotal gastrectomies, and to elucidate the problem presented by an apparently complete anacidity and a lack of response of the acid secretion of the stomach even to histamine in patients complaining of heartburn and the vomiting of sour material.

312 The Abortive Action of *Br. abortus*

I. L. KRITSCHESKI and E. P. HALPERIN (*Zeit. f. Immunitäts.*, July, 1934, p. 421) have attempted to find out why *Br. abortus* gives rise to abortion. Preliminary experiments in rabbits showed that this organism was incapable of giving rise to the Schwarzmänn phenomenon, and it therefore appeared as if this phenomenon was unlikely to be concerned in undue contractions of the sensitized uterus. The direct action of the endotoxin of the organism was then investigated on the virgin uterus of the guinea-pig. A so-called endotoxin was prepared by heating a thick saline suspension of *Br. abortus* to 60° C. for two to two and a half hours. The effect of this extract on contraction of the uterine muscle was tested by the Dale technique. A marked contraction was observed to follow the addition of 0.5 c.cm. of a 1 in 50,000 solution of histamine. Control experiments made with the typhoid bacillus, Friedländer's bacillus, and *Staphylococcus aureus* showed that these organisms had little or no effect on uterine contraction. Further work, shortly to be published, by Kritschewski and Galonowa disclosed the interesting fact that the uterus of guinea-pigs that had been immunized against *Br. abortus* did not respond to the endotoxin. If this should be confirmed it would explain, as the authors point out, why living or dead vaccines of *abortus* should protect against actual abortion while being unable to destroy the organisms in the body.

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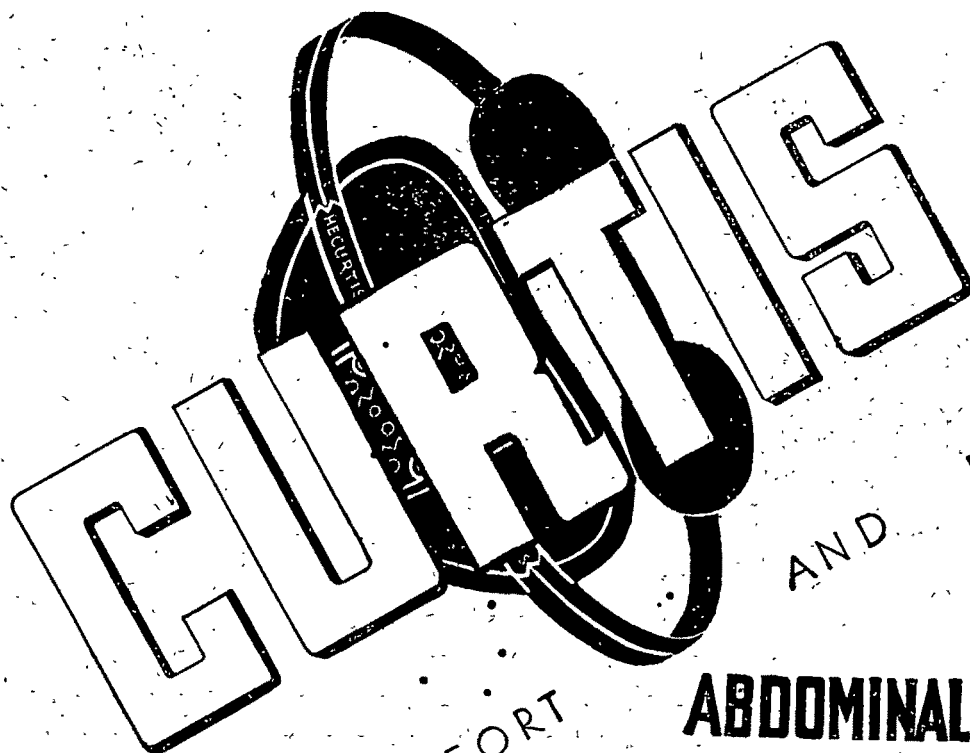
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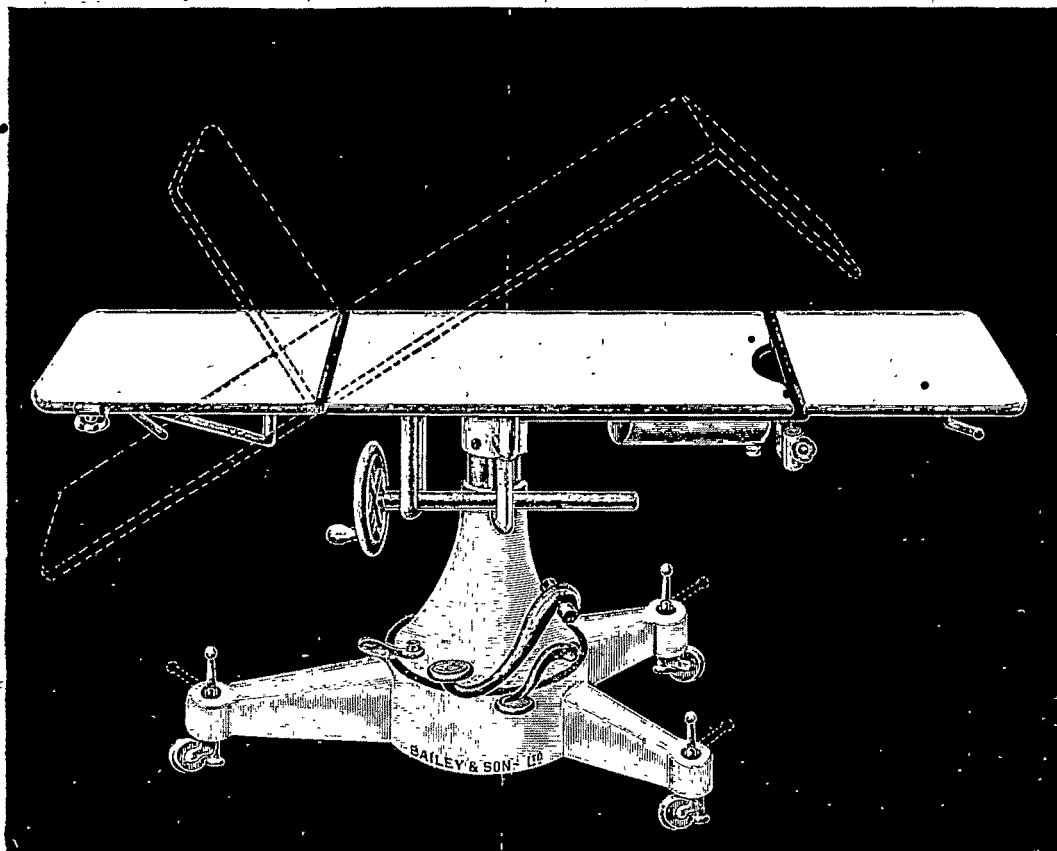
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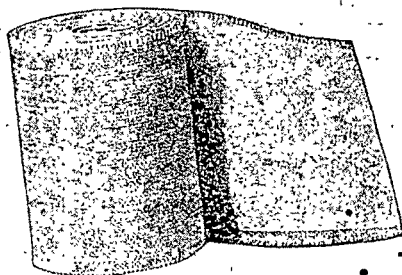
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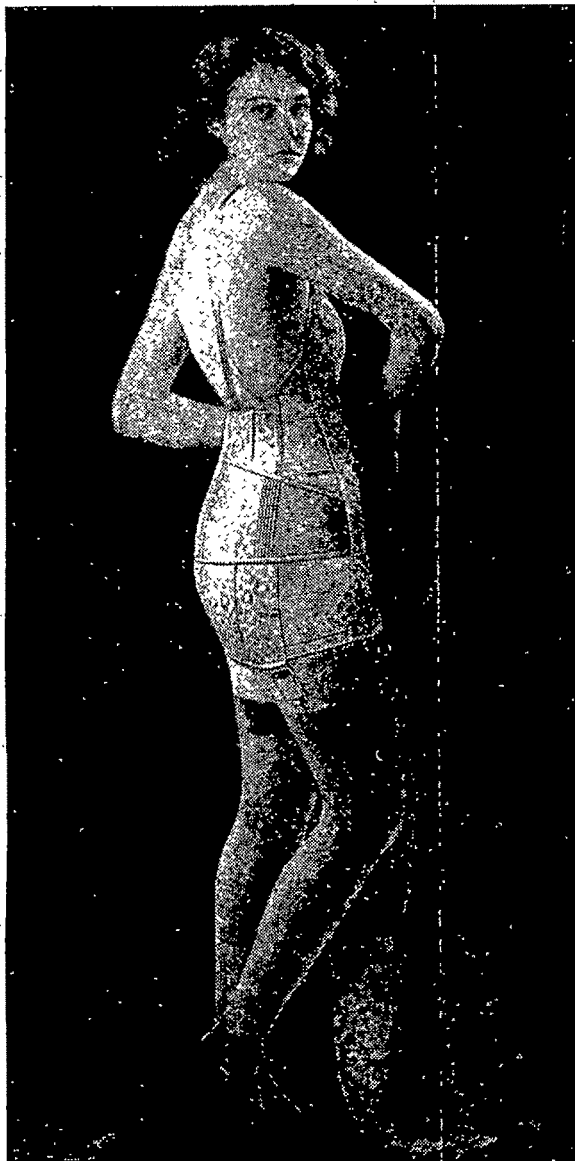
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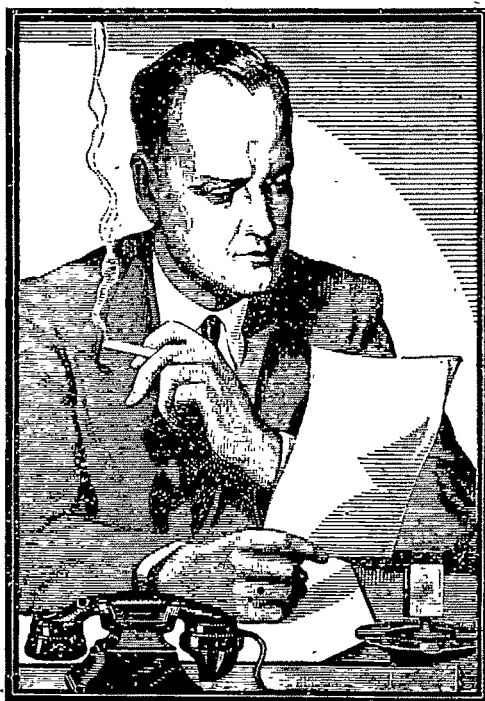
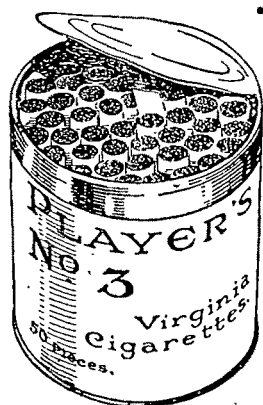
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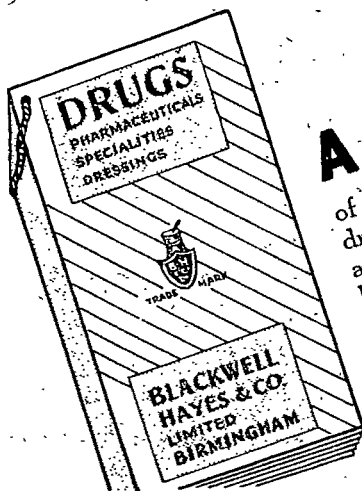
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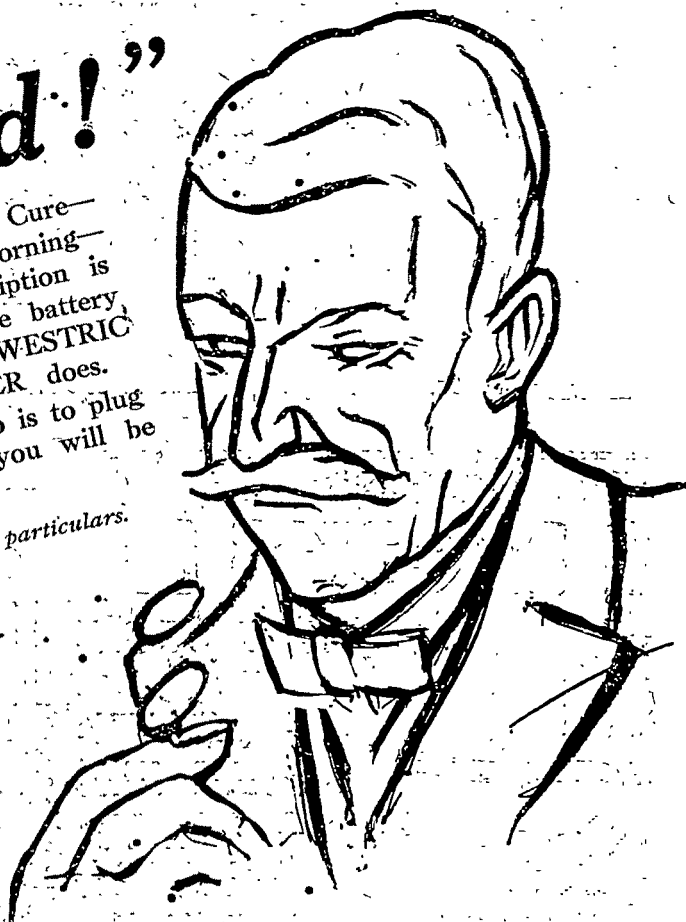
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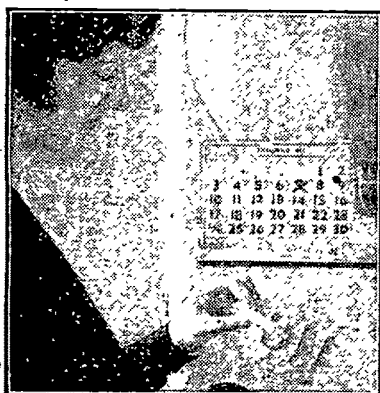
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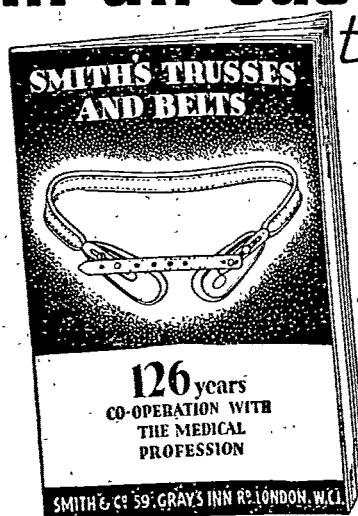
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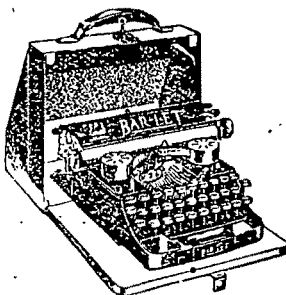
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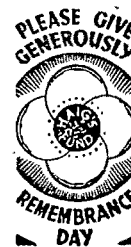
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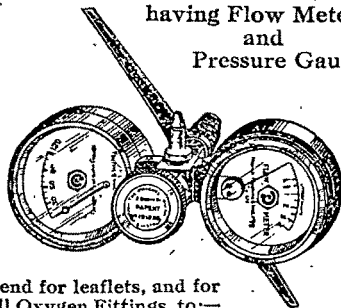


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For terms apply S. J. GILLILLAN, O.B.E., M.B., C.M. Edin., Resident Physician.

Telephone No.: Bathaston 8189.

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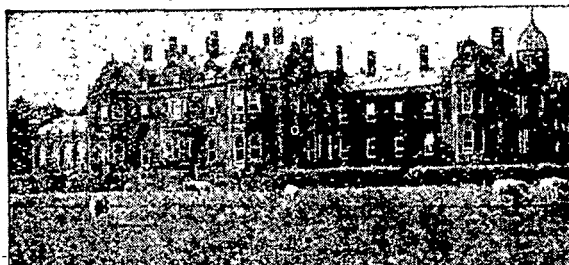
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No certified patients accepted or retained. A thorough clinical and pathological examination is followed by treatment, physical and psychotherapeutic, best suited to each individual patient. Descriptive brochure on application to Medical Superintendents, J. W. ASTLEY COOPER and T. C. BARKAS, O.B.E., M.B., B.S. Telegrams—Almora Hall, Middleton St. George. Telephone—3 Middleton-one-Row.

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This REGISTERED HOSPITAL, with a SEASIDE BRANCH at Colwyn Bay, N. Wales, is for the treatment and care of those of the Upper and Middle Classes suffering from MENTAL and NERVOUS DISEASES.

The Hospital is governed by a Committee, appointed by the TRUSTEES of the Manchester Royal Infirmary.

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For the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch. (Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P.
Terms: from Seven Guineas weekly.

THE CORNISH RIVIERA SANATORIUM

ROSEHILL, PENZANCE

For the reception of patients suffering from tuberculosis.

The Sanatorium stands in its own grounds of 13 acres of garden, lawn, and woodland, and is well sheltered from cold winds. The climate is particularly suitable for patients seeking mild winter conditions. All forms of treatment available. Non-pulmonary, as well as pulmonary, cases admitted.

MEDICAL SUPERINTENDENT: FRANCIS CHOWN, M.B. Lond., D.P.H.

Prospectus on application to THE MATRON, THE CORNISH RIVIERA SANATORIUM, ROSEHILL, PENZANCE.

THE COTSWOLD SANATORIUM

First opened in 1898 and rebuilt in 1925. On the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculin and Ultra-violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Up-to-date main drainage.

Terms 4½ gns. to 7 gns. a week.

Full day and night Nursing Staff.
Med. Supt.: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub. Asst. Phys.: MARGARET A. HARRISON, M.B., B.S. Lond. Pathologist: EDGAR N. DAVEY, M.B., B.Ch. Consult. Laryngologist: CASSIDY DE W. GIBB, F.R.C.S. Edin. Consulting Dental Surg.: GEORGE V. SAUNDERS, L.D.S., R.C.S. Lond. Apply, Secretary, The Cotswold Sanatorium, Cranham, Gloucester. Tel.: 81 and 82 WITCOMBE. Grams: "HOFFMAN, BIRDLP."

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON, and FRIMLEY SANATORIUM.

PAYING PATIENTS RECEIVED.

BOTH MEDICAL and SURGICAL CASES.

4 to 8 guineas per week at the Hospital. 3 to 4 guineas per week at the Sanatorium.

APPLY TO THE SECRETARY:—BROMPTON HOSPITAL, S.W.3.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and Gentlemen received for treatment under certificates, and without certification, as either VOLUNTARY or TEMPORARY PATIENTS, at a weekly fee of TWO GUINEAS and upwards.

NURSING AND REST HOME IN SEASIDE
Resort, boasting maximum sunshine record. Separate rooms, electric fires, qualified matron and resident physician. From 4 gns. All forms of treatment arranged. — Apply, R.M.O., Stanhope House, Hyde Gardens, Eastbourne.

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Great Britain's Greatest Hydro

Matlock

Unrivalled suites of Baths—Turkish and Russian Baths, Aix and Vichy Douches, Massage; Plombières Treatment. Electric Installation for Baths and other Medical Purposes, Dowsing Radiant Heat, Infra-red Light, Artificial Sunlight, D'Arsonval High Frequency, Diathermy, Nauheim Baths, Soapless Foam Baths, etc. "Certified" Milk from own farm. Large Winter Garden. Orchestra. Special provision for Invalids. Night Attendance. Over 60 trained Male and Female Nurses, Masseurs, Attendants, etc.

Terms 13/- to 18/6 per day inclusive board.

Illustrated Prospectus M.J. on request.

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., S.A.O. (R.U.I.); R. MacLELLAND, M.D., C.M.
'Phone: No. 17. 'Grams: Smedleys, Matlock.

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GREAT MISSENDEN, BUCKS.

A Beautifully situated Home, 550 feet above sea-level, on Southern Chilterns. 90 acres, Garden, Woods, and Park.

For INSOMNIA, NEURASTHENIA, other FUNCTIONAL NERVOUS DISORDERS, and CONVALESCENCE.

Fees from 8 guineas.

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Apply: C. W. J. BRASHER, M.D.

TORQUAY: THE MARINE SPA

(under the direction of the Corporation)

Well-equipped Balneological and Electro-Medical Sections for recognised forms of Spa, etc., treatment.

Large Cooling Lounge and "Vita" Glass Sun Lounge. Warm Seawater Swimming Bath with modern filtration plant.

Assistants with C.S.N.M.G. and Biophysical qualifications.

H. BERKELEY HOLLYER, Gen. Manager (Late Manager, Brine Baths, Droitwich Spa).

MONTANA HALL, Montana, Switzerland

Built 1929-30.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL, AND WITH A DAY AND NIGHT STAFF OF BRITISH TRAINED NURSING SISTERS.

INCLUSIVE TERMS—from 8½ guineas (sterling) per week.

Med. Supt.: HILARY ROCHE, M.D. (Melb.), M.R.C.P. (Lond.), Tuberc. Dis. Dip. (Wales)

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental Disorders. Both certified and voluntary patients received. Approved for temporary Patients. This is a large country house, with beautiful grounds and park, five miles from Sheffield. Tel. No. 40030 Ecclesfield. Res. Phys.: GILBERT E. MOULD, L.R.C.P., M.R.C.S., Sheffield. Station: Grange Lane, L. & N.E. Ry.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)

For Mental Disorders with or without Certificates.

Resident Physician: CEDRIC W. BOWER.

Ordinary Terms: Five Guineas per week.

(Including Separate Bedrooms where suitable.) Interviews in London by appointment.

A comfortable London Hotel, convenient for Harley Street and Nursing Homes.

THE CLIFTON HOTEL

WELBECK STREET, LONDON, W.1

gives comfort, service, and cuisine equal to larger hotels at less cost. Bedrooms with hot and cold water and telephones. Centrally situated close to Harley Street and Nursing Homes.

'Grams: Clifinton, London. Tel.: Welbeck 6881

Among the Pine-clad
Border Hills.

Peebles Hydro

In the winter garden of Scotland, facing the sun, 600 feet up. Tonic air, beauty in every landscape from sheltered balconies. Dancing, winter garden, swimming bath, tennis, badminton, golf, fishing. Fully licensed. Modern baths installation. Physio-therapeutic, massage, electrical treatment, ultra-violet radiation. Physician in attendance. Write for prospectus.

PEEBLES HYDRO, PEEBLES, SCOTLAND.

GRAMPIAN SANATORIUM, KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 feet above the sea-level. Sheltered situation in pine wood. Graduated walks. Electric light throughout the building and in shelters. Central heating. Fully equipped X-ray Plant. All modern methods of treatment available, including Pneumothorax, Phrenic evulsion, etc., when necessary. Surgical cases also admitted. Trained nurse on duty all night. Terms 3½ guineas to 6 guineas per week, inclusive. No extras. Med. Supt.: FELIX SAVY, M.D.
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Every kind of Bath. Plombière Lavage. Every kind of Massage. Ultra-violet light. Every kind of Electricity. Diathermy. Every kind of Diet. Essett Inhaler.

High Frequency. Electric Lift.

Prospectus from Secretary. Tels. 341.

Resident: W. JOHNSTON SMYTH, M.D.

Physicians: L. T. ROSE-HUTCHINSON, M.D.

THE GROVE HOUSE, CHURCH STRETTON, SHROPSHIRE.

A private Home for the care of and treatment of a limited number of Ladies mentally afflicted. Voluntary and Temporary Patients received under the New Mental Treatment Act, 1930. Medical Superintendent, Dr. MCCLINTOCK.

ROYAL COLLEGE OF PHYSICIANS

Dr. J. H. SHELDON, F.R.C.P., will deliver the BRADSHAW LECTURE on Thursday, November 1st, at 5 o'clock at the College, Pall Mall East, S.W.1.

Subject: "Haemochromatosis." Any Member of the Medical Profession admitted on presentation of card.

By Order of the President, H. M. BARLOW, Secretary.

EPILEPSY.

Attendance at school is a necessary part of the satisfactory treatment of Epilepsy in Children.

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meets all the requirements of children of middle-class parentage. Extensions made necessary by the success of the school have created several vacancies.

Only bright and intelligent boys and girls are eligible for admission.

Apply to the Director, Colthurst House School, Warford, Alderley Edge.

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Conducted by the Honorary Staff of the Hospital, together with the Physicians in charge of the Dermatological Departments of the London Teaching Hospitals. Lectures and Demonstrations every Tuesday and Thursday at 5 p.m., from October to March, and four times weekly during May. General Practitioners desiring to attend any particular lecture or lectures can do so without paying a fee. Clinics held at 2 p.m. and 6 p.m., Saturdays 2 p.m. only. Pathological Laboratory for Instruction or Research Work.

For further particulars, fees, etc., apply to J. E. M. WIGLEY, M.B., Dean.

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

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The age of the pupil, district preferred, and rough idea of fees should be given. J. & J. PATON, Educational Agents, 143, Cannon St., London, E.C.4. Tel.: Mansion House 5053.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st, 1934, and January 3rd, 1935, and for the Diploma in Tropical Hygiene on January 10th and April 25th, 1935. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Laboratory Secretary, School of Tropical Medicine, Pembroke Place, Liverpool, 3.

DUNNOW HALL,

Newton-In-Bowland, Yorkshire.

A co-educational school for children who are physically or emotionally delicate, or who present special problems in development or conduct.

Modern methods under medical supervision. Own Farm.

Prospectus from the Medical Principal.

F.R.C.S. (Edin.).

POSTAL and ORAL COURSES.

Oral Prep. Course for next Exam. will commence shortly. Course includes Demonstrations of Museum (Surg. Path.) Specimens and Anatomical Dissections. Postal Tuition or "Reading Courses" at any time. Further particulars, H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinburgh.

MASTERY OF MIDWIFERY.

Examinations for the Diploma of the Mastery of Midwifery of the Society of Apothecaries of London will be held twice yearly, beginning on the third Mondays in May and November.

For regulations, apply to the Registrar of the Society, Water Lane, E.C.4.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examination for Medical and Dental Students in London and at Provincial Centres in March, June, September, and December. For Regulations, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

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17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.)
POSTAL OR ORAL PREPARATION FOR ALL
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D.P.H. (Various) 1906-33 (Completed Exam.)	325
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Preparation for the above; also for Medical Preliminary, and all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for M.R.C.P. (Edin.), D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Many successes.

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M.R.C.P., M.D., Primary and Final F.R.C.S., F.R.C.S. (Edin.); also Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. Particulars of all Medical Examinations, Postal Courses, and Oral Classes. Suggestions for the Higher Medical Examinations. Suggestions for the Higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Courses. Openings for Women. Hints for writing theses.

Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.

A SERIES OF WEEKLY DEMONSTRATIONS for medical practitioners has been arranged in the various hospitals of Glasgow from November till May. A COURSE OF LECTURES will also be given in the Faculty Hall weekly from November till February. In addition some SPECIAL COURSES are offered and CLINICAL ASSISTANTSHIPS are available in several of the hospitals. The syllabus may be had on application to the Secretary, Post-Graduate Medical Association, The University, Glasgow.

STAMMERING SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1880. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE's house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—*Times*.
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EXAMINING BOARD IN ENGLAND

BY THE
ROYAL COLLEGE OF PHYSICIANS OF
LONDON AND THE
ROYAL COLLEGE OF SURGEONS OF
ENGLAND.

Notice is hereby given that the following Examinations will commence on the dates stated below.

PRE-MEDICAL EXAMINATION
(Chemistry, Physics, and Biology),
Monday, December 17th.
FIRST EXAMINATION
(Anatomy, Physiology, and Pharmacology),
Thursday, December 13th.
FINAL EXAMINATION
(Pathology, Medicine, Surgery, and Midwifery),
Monday, January 7th.
Candidates who have fulfilled the necessary conditions, and who desire to present themselves for Examination, must give notice in writing, to the Secretary, Examination Hall, 8/11, Queen Square, London, W.C.1, at least twenty-one days before the date of the Examination, transmitting at the same time such certificates as may be required by the Regulations of the Board.
HORACE H. REW, Secretary.

EXAMINING BOARD IN ENGLAND

BY THE
ROYAL COLLEGE OF PHYSICIANS OF
LONDON AND THE
ROYAL COLLEGE OF SURGEONS OF
ENGLAND.

Notice is hereby given that the Examinations for the following Diplomas will commence on the dates stated below:

DIPLOMA IN LARYNGOLOGY AND OTOTOLOGY
AND
DIPLOMA IN PSYCHOLOGICAL MEDICINE
Friday, December 7th.
DIPLOMA IN PUBLIC HEALTH AND
DIPLOMA IN TROPICAL MEDICINE AND
HYGIENE.
Friday, December 28th.

Candidates who have complied with the necessary requirements, and who desire to present themselves for Examination, must apply, in writing, to the Secretary, Examination Hall, 8/11, Queen Square, London, W.C.1, at least twenty-one days before the date of the Examination.

Applications for Part II are due at the same time as for Part I.

HORACE H. REW, Secretary.

UNIVERSITY OF LONDON

A Course of Three Lectures on "Chemical Questions Relating to Pharmacology" will be given by Prof. GEORGE BARGER, F.R.S. (Professor of Chemistry in relation to Medicine in the University of Edinburgh) at the LONDON (H.F.I.I.) SCHOOL OF MEDICINE FOR WOMEN (Hunter Street, Brunswick Square, W.C.1) on NOVEMBER 1st, 2nd, and 5th, at 5.30 p.m. At the First Lecture the chair will be taken by Prof. EDWARD MELLANBY, F.R.S. (Professor of Pharmacology in the University of Sheffield and Secretary of the Medical Research Council). Lantern illustrations. Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

UNIVERSITY OF LONDON

A COURSE OF THREE LECTURES on "Forty Years of Gynaecological Endocrinology" will be given by Prof. Dr. LUDWIG FRAENKEL (late Director of the Women's Clinic in the University of Breslau) at UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL (University Street, Gower Street, W.C.1), on OCTOBER 31st, NOVEMBER 2nd and 5th, at 5.30 p.m. At the First Lecture the chair will be taken by Prof. F. J. BROWNE, M.D., D.Sc., F.R.C.S. (Professor of Obstetric Medicine and Director of the Obstetrical Unit, University College Hospital Medical School).

Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

CITY OF DUBLIN SKIN AND CANCER HOSPITAL, DUBLIN.

Applications are invited for the position of RADIOLOGIST to the above Hospital. Applications to be received by the Secretary, Medical Board, before November 5th.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

CONJOINT BOARD EXAMINATIONS

Candidates taking the First, Second, or Final Conjoint Examinations should make sure of passing at the first attempt by enrolling for the short intensive Revision Courses of the College.

POSTAL, ORAL, PRACTICAL,
CLINICAL COURSES.
MICROSCOPE AND MUSEUM WORK.

Highly qualified Tutors with accurate knowledge of the special features of these examinations.

Write at once for booklet, "How to Pass the Conjoint Board Examinations." Sent free on application.

Address: The Secretary,
MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck Street, London, W.1.

DIPLOMA IN PUBLIC HEALTH The Royal Institute of Public Health

The Course of Instruction can be commenced at any time. Provision is made for students who can give either whole or part-time to the work.

A prospectus and further particulars can be obtained from the Secretary.

Telephone: Terminus 4788-6206.
23, Queen Square (and Gifford Street), London, W.C.1.

M.R.C.P. LONDON M.R.C.P. EDINBURGH F.R.F.P.S. GLASGOW

Short Intensive Oral and Postal Revision Courses in preparation for these qualifications.

Apply SECRETARY, Medical Correspondence College, 19, Welbeck Street, W.1.
Free booklet "The M.R.C.P. and How to Obtain It," on application.

UNIVERSITY OF LONDON

A Course of Three Lectures on "Newer Aspects of Gastritis and Its Consequences" will be given by Prof. Dr. KNUD FAHER (Professor of Medicine in the University of Copenhagen) at GUY'S HOSPITAL MEDICAL SCHOOL (London Bridge, S.E.1) on NOVEMBER 6th, 8th, and 9th at 5 p.m. At the first Lecture the Chair will be taken by ARTHUR F. HURST, Esq., M.A., M.D., F.R.C.P. (Senior Physician to Guy's Hospital). Lantern illustrations.

Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

SURGICAL SCHOLARSHIP.

THE ASSOCIATION OF SURGEONS OF GREAT BRITAIN AND IRELAND invite applications for a SURGICAL SCHOLARSHIP to the value of £350, to be held for one year. The object of the Scholarship is to enable the holder to pursue a definite line of Research or to study Surgery in specified clinics either at home or abroad. Candidates, in their applications, are required to state the line of research or study that they intend to pursue, and also to give résumés of their past careers. No testimonials should be sent, but each candidate is required to provide letters of recommendation, to be forwarded under separate cover, from two sponsors.

The election will be made in March, 1935. Applications must be received by the Secretary of the Association on or before January 31st, 1935, as must letters from the sponsors of candidates.

65, Portland Place, JULIAN TAYLOR,
W.I. Hon. Secretary.

BRITISH POST-GRADUATE MEDICAL SCHOOL.**APPOINTMENT OF DEAN.**

The Governors invite applications from registered Medical Practitioners for the post of DEAN of the School.

Salary £1,800 a year.

Applications must be received not later than first post on November 17th, by the Chairman of the Governing Body, British Post-Graduate Medical School, New Public Offices, Whitehall, London, S.W.1, from whom further particulars may be obtained.

COUNTY BOROUGH OF BLACKBURN.**PUBLIC ASSISTANCE COMMITTEE.****RESIDENT JUNIOR ASSISTANT MEDICAL OFFICER.**

Applications are invited from Medical Practitioners (Male) for the appointment of a Resident Junior Assistant Medical Officer at Queen's Park Institution and Infirmary. The applicants must be registered as Medical Practitioners.

The staff consists of a Resident Medical Officer, a Resident Assistant Medical Officer, a Consulting Surgeon, a Laboratory Assistant and X-ray Attendant.

There is a separate Infirmary, separate Mental Block, and a separate Sanatorium for children, and every opportunity for experience in all departments, including medical, surgical, and midwifery cases. An X-ray apparatus is installed.

The person appointed will be required to devote his whole time to the duties, and also to act as may be directed by the Resident Medical Officer.

The appointment will be limited to a term not exceeding one year.

Salary for the first six months at the rate of £150 per annum, and thereafter at the rate of £200 per annum, together with board, apartments, and attendance.

Applications, stating age, qualifications, and experience, accompanied by copies of not more than three recent testimonials, must be sent so as to reach the Public Assistance Officer, Public Assistance Offices, Cardwell Place, Blackburn, not later than November 3rd.

Town Hall, BRIGGS H. MARSDEN,
Blackburn. Town Clerk.
October 16th, 1934.

CITY OF MANCHESTER.**APPOINTMENT OF ASSISTANT TUBERCULOSIS OFFICER.**

The Public Health Committee invites applications for the position of Assistant Tuberculosis Officer at a commencing basic salary of £650 per annum, rising by annual increments of £25 to £750 per annum.

Candidates must be fully qualified medical practitioners having special knowledge of Medical and Surgical Tuberculosis, and should state whether they possess the Diploma of Public Health.

Applications, stating age, qualifications, and experience, with copies of not more than three recent testimonials, and endorsed on the envelope "Assistant Tuberculosis Officer," must be addressed to the Town Clerk only, and not to members of the Committee or Council, and must be received by him not later than November 12th.

The gentleman appointed will be under the administrative control of the Medical Officer of Health, and the immediate control of the Senior Tuberculosis Officer. He will be required to devote the whole of his time to the duties of his position, to execute the Deed of Service, and to contribute to the Corporation Superannuation Fund.

Canvassing in any form, direct or indirect, oral or written, is prohibited.

By Order,
Town Hall, F. E. WARBRECK HOWELL,
Manchester. Town Clerk.
October, 1934.

GILLSON SCHOLARSHIP IN PATHOLOGY.**SOCIETY OF APOTHECARIES OF LONDON.**

The Gillson Scholarship is awarded for the encouragement of original research in any branch of Pathology, and is open to candidates under 35 years of age who are already Licentiates of the Society or who obtain such diploma within six months of their election to the Scholarship.

The Scholarship is of the annual value of not less than 100 guineas. It is tenable for one year, the holder being eligible for re-election under conditions laid down in the regulations; the maximum tenure is three years.

The Scholarship is awarded in January and applications must be in the hands of the Adjudicators by December 1st.

For full regulations and conditions apply to the Registrar's Office, Apothecaries' Hall, Water Lane, E.C.4.

HENRY COOPER, Registrar.

COUNTY BOROUGH OF WEST BROMWICH.**HALLAM HOSPITAL.****APPOINTMENT OF TWO RESIDENT HOUSE PHYSICIANS AND ONE RESIDENT HOUSE SURGEON.**

Applications are invited from fully qualified male registered practitioners for the above appointments.

The appointments are for six months, with eligibility for re-appointment for a further six months, but either party may give six weeks' notice terminating the engagement. The Hospital has 472 beds and is equipped with up-to-date special departments. There is a visiting staff of eight consultant physicians and surgeons.

Preference will be given to applicants with previous hospital experience.

Salary £200 per annum.
Canvassing, either directly or indirectly, is strictly prohibited and will be deemed a disqualification.

Applications, stating age, experience, and qualifications, together with copies of three recent testimonials, must be forwarded to the Medical Officer of Health, 2, Lodge Road, West Bromwich, so as to arrive not later than by first post on Wednesday, October 31st.

Town Hall, ALFRED WICKHAM,
West Bromwich. Town Clerk.
October 17th, 1934.

CITY OF CARDIFF.**ISOLATION HOSPITAL.****APPOINTMENT OF ASSISTANT RESIDENT MEDICAL OFFICER (Male).**

Applications are invited from duly qualified Medical Practitioners for the appointment of Assistant Resident Medical Officer at the City Isolation Hospital, Cardiff.

The appointment will be for one year only, and the salary will be £250 per annum (£150 of which will be subject to a temporary reduction of 2½ per cent.), with board, residence, and laundry.

The candidate appointed may be required to undertake general duties in the Public Health Department when necessary. He will not be allowed time off duty to take a course of training for the Diploma in Public Health.

Forms of application may be obtained from the undersigned, by whom applications, accompanied by copies of not more than three recent testimonials, and endorsed "Resident Medical Officer," must be received not later than November 3rd.

City Hall, J. GREENWOOD WILSON,
Cardiff. Medical Officer of Health.
October 13th, 1934.

CITY OF BIRMINGHAM.**SELLY OAK HOSPITAL. (520 Beds.)****CASUALTY OFFICER (Male).**

Applications are invited from fully qualified Medical Practitioners for whole-time appointment as Casualty Officer (male), at the Selly Oak Hospital, Birmingham. The appointment will be for a period of six months in the first instance, but may be extended at the end of that time for a further period of not exceeding six months.

Salary at the rate of £200 per annum, and full residential emoluments.

The officer appointed will be required to refund to the Council all fees, allowances, and emoluments (other than the foregoing) received by him.

Further particulars may be obtained from the Medical Superintendent at Selly Oak Hospital, to whom applications, stating age, experience, and qualifications, with copies of recent testimonials, should be forwarded not later than Wednesday, October 31st.

The Council House, F. H. C. WILTSHIRE,
Birmingham. Town Clerk.
October, 1934.

MINISTRY OF HEALTH.**APPOINTMENT OF DEPUTY REGIONAL MEDICAL OFFICERS.**

The Minister of Health invites applications from registered Medical Practitioners (men and women) for appointment as Deputy Regional Medical Officer on the staff of the Ministry in various part of England for the discharge of combined clinical and administrative duties in connection with the National Health Insurance Medical Service.

The normal scale of salary is £800 per annum, rising by annual increments of £30 to a maximum of £1,100. These rates are at present subject to temporary abatement, and the current scale of salary rises from a minimum of £770 per annum to a maximum of £1,045 per annum.

Successful candidates under the age of 50 years will be appointed to this scale and will be established Civil Servants with the usual conditions as to pension, etc.

Successful candidates of the age of 50 years and upwards (at the time of appointment) will be remunerated on the above scale and will receive unestablished, non-pensionable appointments. In special circumstances, where a candidate in this category has special qualifications and experience, the commencing salary may be advanced to a point in the scale at present in operation not exceeding £950 per annum, inclusive.

Above the grade of Deputy Regional Medical Officer there are at present thirty-one posts of Regional Medical Officer rising to a normal maximum of £1,400 per annum inclusive, and five posts of Divisional Medical Officer rising to a normal maximum of £1,600 a year inclusive. These rates are also subject to a temporary abatement; the current maxima being £1,330 and £1,520, and the above numbers are subject to revision from time to time as the exigencies of the Service may determine. When vacancies are to be filled among the Regional Medical Officers, preference will be given to those who have served as Deputy Regional Medical Officers.

Candidates must be Medical Practitioners of not less than ten years' standing and not exceeding the age of 55 years, with a wide experience of general practice, especially amongst the industrial population.

Deputy Regional Medical Officers are required to devote their whole time to the Public Service and to perform such duties as may be assigned to them by the Minister from time to time. These include acting as deputy to the Regional Medical Officer in the work carried out by the latter:

(a) as Medical Referee in cases of insured persons referred for a second medical opinion on questions of incapacity for work, or of restoration of working capacity;

(b) in assisting in the administration of the Insurance Medical Service.

Deputy Regional Medical Officers must be prepared to reside in the area from time to time assigned to them.

Canvassing Members of Parliament or Officers of the Ministry will render a candidate liable to disqualification.

Forms of application, with further particulars of the appointment, may be obtained from the Director of Establishments, Ministry of Health, Whitehall, S.W.1.

No application can be considered unless received on the prescribed form not later than November 10th.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.**BARRASFORD SANATORIUM. (100 Beds.)****RESIDENT MEDICAL ASSISTANT.**

Applications are invited for the above post from duly qualified and registered Medical Practitioners who have held a previous resident appointment.

The Sanatorium is fully equipped for the treatment of male and female cases of pulmonary tuberculosis. The post does not provide facilities for the taking of the D.P.H.

The salary in respect of the appointment, which is tenable for one year only, is £250 per annum, with board, lodgings, etc.

Applications on the prescribed form, which can be obtained on application to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne, must be submitted not later than Saturday, November 3rd.

BOROUGH OF MAIDSTONE.**ASSISTANT MEDICAL OFFICER.**

Applications are invited from duly qualified Lady Medical Practitioners for the whole-time appointment of Assistant Medical Officer of Health at a commencing salary of £500 per annum, rising by £25 annually to a maximum of £700 per annum.

The terms and conditions of the appointment, together with application forms, can be obtained from the undersigned, by whom applications should be received not later than Nov. 12th.

13, Tonbridge Road, GRAHAM WILSON,
Maidstone. Town Clerk.

WEST LONDON HOSPITAL,
Hammersmith, W.6. (235 Beds.)

Applications are invited for the post of **HONORARY ASSISTANT SURGEON**. Candidates must be Fellows of one of the Royal Colleges of Surgeons of England, Edinburgh, or Ireland. The successful candidate will be required in addition to other duties, periodically to deliver courses of Surgical Lectures to the Nurses and to undertake such teaching as the Board may approve.

Applications, with copies only of testimonials, must reach me not later than Thursday, November 22nd. Candidates must attend the meeting of the Medical Council on Friday, November 23rd, at 4.30 p.m., and prior to that date send copies of applications and testimonials to each member thereof. They must not canvass members of the Board, but nevertheless must send copies of their application and testimonials to each member thereof and, if so notified, attend a meeting of the Board at 5 p.m. on Tuesday, November 27th, when the election will be made.

H. A. MADGE, Secretary.

ROYAL LONDON OPHTHALMIC HOSPITAL
(MOORFIELDS EYE HOSPITAL),
City Road, E.C.1.**REFRACTION ASSISTANT.**

Applications are invited for the post of Refraction Assistant to attend on Tuesday and Friday each week as from November 23rd.

Candidates must be registered Medical Practitioners. Salary at the rate of £100 per annum.

The Refraction Assistant will be appointed for a period of one year, and will be eligible for reappointment.

He will be required to undertake not more than sixteen new cases per day, and the hours of attendance will be from 9 a.m. to 1 p.m.

Copies of regulations governing the appointment can be obtained on application.

Applications, with testimonials, stating age and qualifications, must be received by the undersigned not later than November 5th.

A. J. M. TARRANT, Secretary.

ROYAL LONDON OPHTHALMIC HOSPITAL
(MOORFIELDS EYE HOSPITAL),
City Road, E.C.1.**OUT-PATIENT OFFICER.**

Applications are invited for the post of Out-patient Officer to attend on Wednesday and Saturday each week, duties to commence December 1st.

Candidates must be registered Medical Practitioners. Salary at the rate of £100 per annum.

The Out-patient Officer will be appointed for a period of one year, and will be eligible for reappointment.

Copies of regulations governing the appointment can be obtained on application.

Applications, with testimonials, stating age and qualifications, must be received not later than November 5th, by

A. J. M. TARRANT, Secretary.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.**RESIDENT HOUSE SURGEON (MALE).**

There will be a vacancy for a Third Resident House Surgeon to enter on duty on December 1st next. The appointment will be for a period of nine months; three months as Third House Surgeon, three months as Second House Surgeon, and three months as First House Surgeon. Remuneration at the rate of £75 per annum.

Applications, accompanied by copies of not more than three testimonials, should be sent to the undersigned on or before November 10th.

JOHN H. YOUNG, Secretary-Supl.

CONNUGHT HOSPITAL,
Walthamstow, E.17.
(118 Beds, with Four Resident Medical Officers.)

CASUALTY OFFICER (Male) required. Salary £100 per annum, with quarters, board, and laundry. Appointment for six months from December 1st. Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, should be received by Friday, November 2nd.

KENELM S. ELLISON, Secretary.

HERTFORD COUNTY HOSPITAL.

Applications are invited for the post of **HONORARY ASSISTANT PHYSICIAN** to the above Hospital.

Candidates should possess a degree in medicine of a British University or the Membership or Fellowship of the Royal College of Physicians.

Applications (16 copies), together with copies of testimonials, should be made by Monday, November 5th, to the undersigned.

PERCY G. BROOKS, Secretary.

EXETER CITY MENTAL HOSPITAL.

The Visiting Committee invite applications for the appointment of **ASSISTANT MEDICAL OFFICER (Male)** at a salary of £350 per annum, rising by annual increments of £25 to £450 per annum, with furnished apartments, board, attendance, and laundry. £50 per annum will be paid in addition if the successful candidate has a diploma in Psychological Medicine, or when he obtains the same. The appointment is subject to deductions under the Asylum Officers Superannuation Act. Post-graduate experience in a General Hospital desirable. Opportunity for research and study.

Forms of application and further particulars may be obtained from my office, 10, Southernhay West, Exeter.

Application, endorsed "Assistant Medical Officer," together with copies of not more than three recent testimonials, must reach me not later than November 9th.

C. J. NEWMAN,
Town Clerk and Clerk to the
Visiting Committee.

COUNTY MENTAL HOSPITAL,
WINWICK, WARRINGTON.

Applications are invited for the post of **ASSISTANT MEDICAL OFFICER**. Candidates must be under 35 years of age. Commencing Salary £500 per annum, rising by annual increments of £25 to £600 per annum, subject to a deduction of 3 per cent. under the Asylum Officers Superannuation Act, 1909. There are no emoluments. The selected candidate will be required to live in the Hospital and will be provided with board, lodging, etc., for which a charge of £150 is made. The possession of a Diploma in Psychological Medicine will entitle the officer to an additional £50 per annum. Applications, giving full particulars, together with copies of three testimonials, should reach the Medical Superintendent not later than the first post on November 7th.

HOSPITAL OF ST. JOHN & ST. ELIZABETH,
60, Grove End Road, N.W.8.

Applications are invited for the post of **ANAESTHETIST**. The successful candidate will be required to attend for Dental work at 9 a.m. on Tuesdays, and for general surgical work on Friday afternoons at 2 p.m.

Applicants are required to call on all members of the Medical Committee, a list of the members of which will be supplied on application to the Secretary.

Applications, with copies of three testimonials, must reach the undersigned on or before Monday, October 29th.

F. DUDLEY HOBBS, B.A., Secretary.

THE CANCER HOSPITAL (FREE)
(Incorporated under Royal Charter),
Fulham Road, London, S.W.3.

The Committee are prepared to receive applications for the post of **HOUSE SURGEON**, to commence duties on January 1st, 1935. Salary at the rate of £100 per annum.

The appointment is for six months, and subject to rules, a copy of which may be obtained from the Secretary.

Previous experience as a House Surgeon is indispensable.

Applications, with three (copies only) testimonials, to be sent to the undersigned not later than the first post on Friday, Nov. 16th.

CLEMENT COBBOLD, Secretary.

THE FINCHLEY MEMORIAL HOSPITAL,
Granville Road, N.12. (72 Beds.)**RESIDENT MEDICAL OFFICER.**

Applications are invited for the post of Resident Medical Officer, vacant November 22nd. Appointment for six months at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating qualifications, nationality, age, and experience, with copies of recent testimonials, to be sent to the Secretary.

THE GLASGOW EYE INFIRMARY.

The Directors invite applications from registered Medical Practitioners for the post of **RESIDENT HOUSE SURGEON**. Salary £100 per annum, with apartments and board. Applications, with copies of testimonials, should be lodged with the undersigned. Immediate application.

171, West Regent St., WM. M. MOORE,
Glasgow, C.2. Secretary.
October 16th, 1934.

VICTORIA CENTRAL HOSPITAL,
WALLASEY.

HONORARY ASSISTANT SURGEON. Applications are invited for this post, particulars of which may be obtained from the Secretary. Applications must be sent in by letter, not later than November 5th.

ARTHUR J. AUST, Hon. Secretary.

MID-WALES COUNTIES MENTAL
HOSPITAL, TALGARTH, BRECONSHIRE.

The Visiting Committee invite applications for the post of **ASSISTANT MEDICAL OFFICER (Male)** at this Institution. Salary commencing at £350 and rising by annual increments of £25 to £450 per annum, with (in addition) the following emoluments, valued for the purpose of superannuation at £100 per annum, apartments, board, washing, and attendance. An extra £50 per annum will be paid to a holder of the D.P.M. The appointment is subject to the provisions of the Asylum Officers Superannuation Act, 1909. A knowledge of Welsh is desirable, but not essential.

Applications, together with testimonials, should be sent to the undersigned as early as possible, but not later than November 12th.

A. J. ASTBURY,
Clerk to the Visiting Committee.

WORCESTER COUNTY AND CITY MENTAL
HOSPITAL, POWICK, near WORCESTER.

Applications are invited for the post of **ASSISTANT MEDICAL OFFICER**. Applicants must be male, single, under 35 years of age, and duly qualified in medicine and surgery.

Commencing salary £350, rising by annual increments of £25 to a maximum salary of £450 per annum, together with furnished apartments, board, laundry, and attendance. A further £50 per annum will be paid if the selected candidate holds or obtains a Diploma in Psychological Medicine. The appointment is subject to the provisions of the Asylum Officers Superannuation Act, 1909.

Applications, stating age, and full particulars of qualifications and experience, accompanied by copies of three recent testimonials, to be forwarded to the Medical Superintendent not later than Saturday, November 10th.

ROYAL FREE HOSPITAL,
Gray's Inn Road, W.C.1.

Applications are invited from Medical Women who have had previous V.D. experience for the part-time appointments of **ASSISTANT MEDICAL OFFICER (two)** in the department for treatment of Venereal Diseases (female), vacant on January 1st. Tenable for 12 months. Salary £350 per annum. Intending candidates should submit applications, stating age and experience, with copies of three recent testimonials, to the undersigned on or before November 24th.

RICHARD T. BARTLEY,
Acting Secretary.

BATH AND WESSEX CHILDREN'S ORTHO-
PAEDIC HOSPITAL, Combe Park, BATH.

HOUSE SURGEON required, to commence duty immediately.

The appointment will be for six months, with salary at the rate of £120 per annum, together with quarters, board, and laundry.

Candidates must have had special experience in administering anaesthetics.

Applications, with copies of three recent testimonials, should be forwarded at once to the undersigned.

HAROLD J. FRICKER,
October 22nd, 1934. Secretary.

ROYAL BERKSHIRE HOSPITAL,
READING.

Required immediately, a **HOUSE SURGEON (Male)** with charge of beds for Special Departments (Ophthalmic, Ear, Nose, and Throat). Appointment for six months, remuneration at £125 per annum, with board, residence, and laundry.

Candidates must be fully qualified and registered.

Applications, with copies of testimonials to be sent immediately to the undersigned.

F. A. LYON, Secretary.

PADDINGTON GREEN CHILDREN'S
HOSPITAL (Incorporated), LONDON, W.2.

Applications are invited for the appointment of **HONORARY SURGEON** to the Ear, Nose, and Throat Department, to attend on two afternoons a week. Candidates must be Fellows of the Royal College of Surgeons, England. Applications, stating age and qualifications, accompanied by copies of three testimonials, should reach the undersigned not later than November 17th.

JAMES A. HAMLIN, Secretary.

MONTAGU HOSPITAL, MEXBOROUGH,
YORKS.

Applications are invited for the position of **JUNIOR HOUSE SURGEON** at the above hospital (lady). Commencing salary £100 per annum, with one month holiday annually. The hospital contains 84 beds, 64 being surgical, and 20 maternity. Applicants should state their experience in the administration of anaesthetics, and when at liberty.

DONALD WILSON, Secretary.

SURREY COUNTY COUNCIL. SECOND ASSISTANT MEDICAL OFFICER.

Applications are invited for the appointment of Second Assistant Medical Officer (male) at the County Sanatorium (300 beds), Miford, near Godalming.

Previous experience in a Sanatorium is essential.

The commencing salary is £450, rising by annual increments of £25 to £550 per annum. The officer will be charged, in respect of board, lodging, and laundry, the sum of £100 per annum.

The appointment is subject to the Staffing Regulations of the County Council and to a medical examination for Superannuation purposes under the Local Government and Other Officers Superannuation Act, 1922.

The appointment is terminable by one month's notice on either side.

Forms of application may be obtained from the County Medical Officer of Health, County Hall, Kingston-on-Thames, to whom completed forms of application must be returned, together with copies of three recent testimonials, not later than Saturday, November 3rd.

DUDLEY AUKLAND,
Clerk to the County Council.
October 22nd, 1934.

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE.

MIDDLETON-IN-WHARFEDALE SANATORIUM, near ILKLEY.

The County Council of the West Riding of Yorkshire invite applications for the appointment of MEDICAL SUPERINTENDENT of the Middleton-in-Wharfedale Sanatorium (an Institution for the treatment of tuberculosis—300 beds for males) who will also act as the Consultant Tuberculosis Officer for the Skipton (No. 1) Area.

The salary will be £900 per annum (with house, etc.), rising by annual increments of £50 to £1,000.

Further particulars and form of application may be obtained from the undersigned, by whom all applications, together with copies of not more than three recent testimonials, must be received not later than November 12th.

County Hall, J. CHARLES McGRATH,
Wakefield, Clerk of the County Council.
October, 1934.

WARWICKSHIRE AND COVENTRY JOINT COMMITTEE FOR TUBERCULOSIS.

KING EDWARD VII MEMORIAL SANATORIUM, HERTFORD HILL, NEAR WARWICK.

Applications are invited for the post of SENIOR ASSISTANT MEDICAL OFFICER (male) at the Memorial Sanatorium, near Warwick, of 195 beds.

The successful candidate will be appointed for six months, and will have special opportunity of gaining experience in treatment by artificial pneumothorax, by ultra-violet light, and in X-ray work.

The salary will be at the rate of £275 per annum, plus board, lodging, and laundry.

Applications, with recent testimonials, should be forwarded direct to the Medical Superintendent at the Sanatorium by not later than Thursday, November 1st.

Shire Hall, L. EDGAR STEPHENS,
Warwick, Clerk of the Joint Committee.
October 15th, 1934.

SWANSEA COUNTY BOROUGH.

LADY ASSISTANT MEDICAL OFFICERS.

The Swansea Borough Council invite applications from duly qualified and experienced Women Medical Practitioners for the post of Assistant Medical Officer to assist with the medical services of the Corporation. Hospital resident posts with special experience in Diseases of Women (ant-natal and obstetrics) and Children, and School Medical Service, and Mental Deficiency work are desirable qualifications. Salary £500, rising by £25 to £700 per annum. Form of application and list of duties can be obtained from Dr. THOMAS EVANS, Medical Officer of Health, Public Health Offices, Swansea. Applications must be received not later than Wednesday, November 7th.

SWANSEA COUNTY BOROUGH.

RESIDENT MEDICAL OFFICER. INFECTIOUS DISEASES HOSPITAL.

The Council invite applications for the above appointment from duly qualified unmarried (male) Medical Practitioners. The salary will be at the rate of £350 per annum, together with emoluments. Previous experience in an Infectious Disease Hospital is desirable. The appointment is for one year.

Applications (on special forms with particulars of duties) can be obtained from the Medical Officer of Health, Public Health Offices, Swansea, to be sent in not later than November 7th.

LONDON COUNTY COUNCIL.

Applications invited from registered Medical Practitioners of at least one year's standing for appointment as TEMPORARY DISTRICT MEDICAL OFFICER in (a) Area III, District J (West Islington); (b) Area III, District K (East Islington); (c) Area I, District L (Isle of Dogs). Provisional salary £200, £125, and £300 a year respectively.

In the case of Area III, persons appointed will be required to reside in or near the district, and in the case of Area I, District L, residence in the district is a condition of appointment. The persons appointed will be required to carry out duties prescribed by the Public Assistance Order. The appointments will be to March 31st, 1935, in the first instance. Remuneration and conditions subject to review.

Forms of application, with further particulars, obtainable (stamped addressed foolscap envelope necessary) from Medical Officer of Health (Staff Division 3a), County Hall, Westminster Bridge, S.E.1, returnable by November 2nd. Canvassing disqualifies.

LONDON COUNTY COUNCIL.

Applications invited from Medical Practitioners for appointment to the undermentioned position. Duties are assigned by Medical Superintendent and include, if necessary, assistance at other establishments under Council's control. Candidates must be Medical Practitioners of at least one year's standing. Experience in a general hospital also desirable. Married quarters are not available.

DOWNS HOSPITAL FOR CHILDREN, Sutton, Surrey. ASSISTANT MEDICAL OFFICER (Grade I). Salary £350 by £25 to £425 a year, together with board, lodging, and washing. Experience of children's diseases and of the administration of anaesthetics desirable.

Application forms obtainable (stamped addressed foolscap envelope necessary) from Medical Officer of Health (Staff Division 3a (1)), County Hall, S.E.1, returnable by November 7th. Canvassing disqualifies. Further enquiries should be addressed to Medical Superintendent at the hospital.

CITY OF SHEFFIELD.

KING EDWARD VII HOSPITAL, RIVELIN VALLEY.

RESIDENT HOUSE SURGEON required on January 1st, 1935, for the above Hospital which is for the treatment of Surgical Tuberculosis and other Orthopaedic conditions. (140 beds.)

The officer appointed will be required to attend the Out-patient Department for Surgical Tuberculosis cases, the Orthopaedic Clinic, and the Maternity and Child Welfare Centre.

Salary at the rate of £150 per annum, with board and laundry. Appointment for 12 months.

Applications, with testimonials, should be sent to the Medical Superintendent by November 10th.

THE HOSTEL OF ST. LUKE

(Glergy Nursing Home),
14, Fitzroy Square, London, W.1.

The Committee of Management invite applications for the post of RESIDENT MEDICAL OFFICER (male) to the above Hostel.

Candidates must have had previous experience as House Surgeon at a General Hospital. The appointment is for six months; and may be renewable for a further period of six months. Salary at the rate of £200 per annum, with board, residence, and laundry. A fortnight's holiday will be allowed every six months, and the locum will be paid by the Committee of the Hostel.

Applications and inquiries should be addressed to the Secretary of the Hostel at 14, Fitzroy Square, London, W.1, and reach him before November 10th. The successful applicant will be required to take up his duties on December 1st.

ROYAL HAMPSHIRE COUNTY HOSPITAL, WINCHESTER. (168 Beds.)

HOUSE SURGEON.

Applications are invited from fully qualified men for the above post to take up duties on November 16th. Six months' appointment. Salary £125 per annum, with board, residence, and laundry.

Candidates, who must be of British nationality, to make application to the undersigned, enclosing copies of three testimonials.

HERBERT MASLEN, Secretary.

NEW SUSSEX HOSPITAL FOR WOMEN, WINDLESHAM ROAD, BRIGHTON.

Applications are invited from qualified Medical Women for the post of HOUSE PHYSICIAN (Duties to commence on December 1st). Salary at the rate of £100 per annum.

Applications, in writing, accompanied by recent testimonials, should be sent on or before November 12th, to

Board Room, PERCY F. SPOONER,
October 18th, 1934. Secretary.

EAST SUSSEX COUNTY COUNCIL.

SOUTHLANDS HOSPITAL, SHOREHAM-BY-SEA.

ASSISTANT MEDICAL OFFICER.

Applications are invited from fully qualified registered Medical Practitioners (unmarried) for the post of Male Assistant Medical Officer (non-resident) at the Southlands Hospital, Shoreham-by-Sea, near Brighton (265 beds). The appointment is for one year. Salary £250 per annum, with a lodging allowance of £150 per annum. At a later date the officer may be provided with accommodation in the Hospital; in that case the lodging allowance will be reviewed. The successful candidate will be required to pass a medical examination. Preference will be given to candidates with previous hospital experience. Applications should be made on a form obtainable from the County Medical Officer of Health, County Hall, Lewes, and must be returned to him by Saturday, November 10th, together with copies of three recent testimonials.

County Hall, H. J. T. McILVEEN,
Lewes, Clerk of the County Council.

LANCASHIRE MENTAL HOSPITALS BOARD.

COUNTY MENTAL HOSPITAL, PRESTWICH, near MANCHESTER.

APPOINTMENT OF DEPUTY MEDICAL SUPERINTENDENT.

Applications are invited for the whole-time appointment of Deputy Medical Superintendent of the above Mental Hospital. The salary is £750 per annum, rising by annual increments of £25 to a maximum of £850 per annum. (A sum of £50 per annum, in addition to the salary, will be paid if in possession of the D.P.M. or a degree in Psychological Medicine of London University). No bonus is payable. The appointment will be subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Applicants are required to send in their applications on a form to be obtained from the undersigned, and the applications endorsed "Deputy Medical Superintendent" should be sent to or delivered at my office not later than 12 noon on Thursday, November 8th.

Canvassing, either directly or indirectly, will be a disqualification.

County Offices, GEORGE ETHERTON,
Preston, Clerk of the Board,
October, 1934.

PRINCESS ALICE MEMORIAL HOSPITAL, EASTBOURNE.

APPOINTMENT OF PHYSICIAN.

The Committee invite applications for the above post shortly to become vacant. Full particulars may be obtained from the undersigned. Applications, accompanied by copies of three recent testimonials, should be delivered to the undersigned by first post on Friday, Nov. 2nd.

W. RUSSELL RUDALL,
October 19th, 1934. Sec'y.

STROUD GENERAL HOSPITAL, STROUD, GLOS.

RESIDENT MEDICAL OFFICER (Male or Female) required at once. Candidates must be fully qualified and registered. Six months' appointment. Salary £150 per annum, with board and laundry. Applications, stating nationality, with copies of testimonials, to be sent to the undersigned (from whom further information may be obtained).

C. FORD SPENCER, Secretary.

THE ROYAL INFIRMARY, SUNDERLAND. (290 Beds.)

HOUSE SURGEON (male) required at once. Salary £120 per annum, with board, residence, and laundry. Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned immediately.

J. A. BEARDSALL, House Gov. & Sec.

ESSEX COUNTY HOSPITAL, COLCHESTER. (160 Beds)

Wanted immediately, ASSISTANT HOUSE SURGEON (male). Salary £120 per annum, with board, washing, and residence. Medical and Surgical qualifications required.

Applications with three recent testimonials, to be sent by Wednesday, November 7th, to

ALFRED G. BUCK, Secretary.

ROYAL SUSSEX COUNTY HOSPITAL, GUILDFORD. (184 Beds.)

Wanted, December 1st, HOUSE SURGEON (Male). Six months' appointment. Salary £150 per annum, with board, residence, and laundry.

Applications, stating essential particulars, with copies of not more than three testimonials, to be sent to the Secretary-Superintendent before November 13th.

APPOINTMENTS.—Important Notice.

Medical practitioners are requested **not to apply** for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	CONTRACT PRACTICE (contd.)	PUBLIC HEALTH (contd.)
INVICTA MEDICAL AID SOCIETY, ROCHESTER. (Medical Officer.)	NEATH AND DISTRICT. (Medical Aid Association.)	CITY OF SALFORD. (Junior Assistant, Venereal Diseases Treatment Centre.)
EBBW VALE, MON. (Workmen's Medical Society.)	OAKDALE, MON. (Medical Officer for Medical Aid Association.)	CITY OF STOKE-ON-TRENT EDUCATION COMMITTEE. (Assistant School Medical Officer.)
GILFACH GOCH, GLAMORGAN. (Workmen's Medical Scheme.)	OGMORE VALLEY, GLAMORGAN. (Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)	COUNTY BOROUGH OF TYNEMOUTH. (Assistant Medical Officer of Health—Male.)
LLANELLY AND DISTRICT WORKMEN'S MEDICAL COMMITTEE. (All Medical Appointments.)	PUBLIC HEALTH	PUBLIC ASSISTANCE
LLWYNPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. (Workmen's Medical Scheme.)	CORNWALL COUNTY COUNCIL. (Medical Superintendent—Tehidy Sanatorium, Cornwall.)	COUNTY BOROUGH OF BARROW-IN- FURNESS. (District Medical Officer.)
LOWESTOFT MEDICAL INSTITUTE. (Medical Officer.)	COUNTY COUNCIL OF KINCARDINE. (Deputy Medical Officer of Health.)	VOLUNTARY HOSPITAL. (Honorary Consulting Physician, Scunthorpe and District War Memorial Hospital.)
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	COUNTY OF LANARK. (Assistant Medical Officer, Tuberculosis Officer, and Child Welfare Medical Officer.)	
	COUNTY BOROUGH OF OLDHAM. (Resident Assistant Medical Officer, Boundary Park Hospital.)	

(b) Overseas.

Medical practitioners are requested **not to apply** for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. (All Friendly Society Appoint- ments.)	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Mac- quarie St., Sydney, N.S.W.	QUEENSLAND. (Brisbane Asso- ciate Friendly Societies Insti- tute.)	The Hon. Sec., Queens- land Branch, British Medical Association, B.M.A. Building, Ade- laide St., Brisbane.	WELLINGTON, NEW ZEALAND (Contract Practice Appointments.)	Dr. G. F. V. ANSON, (Hon. Sec., New Zea- land Branch), British Medical Association, P.O. Box 156, Wellin- gton, New Zealand.
VICTORIA. (All Institute or Medical Dispens- aries.)	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medi- cal Association, Medi- cal Society Hall, East Melbourne, Victoria.			WESTERN AUSTRALIA (Contract and Lodge Practices.)	Hon. Sec., Western Australian Branch, British Medical Asso- ciation, "Shell House," 205, St. George's Ter- race, Perth, Western Australia.

October 24th, 1934

By Order of the Council.

G. C. ANDERSON, Medical Secretary.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.1.

Applications are invited for the post of **FOURTH PHYSICIAN (Male)** to the Hospital. Candidates must be Graduates in Medicine, Members of the Royal College of Physicians, London, or shall proceed to obtain that Diploma, and must not be engaged in General Practice. The successful candidate will have charge of beds, and will do two Out-patient Clinics per week, and there is an honorarium of fifty guineas attached to the post.

Applications, with copies of not more than four testimonials, should reach the Secretary not later than October 31st.

Candidates will be required to call upon Members of the Medical Staff whose names, together with the Standing Orders relating to the post, will be forwarded by the Secretary.

By Order of the Committee of Management,

W. H. SIDNELL, Secretary-Supt.

October 15th, 1934.

LONDON JEWISH HOSPITAL, Stepney Green, E.1. (General Hospital—109 Beds.)

Applications are invited for the following posts:

RESIDENT MEDICAL OFFICER AND HOUSE PHYSICIAN. Salary at the rate of £150 per annum, with board and residence.

HOUSE SURGEON. Salary at the rate of £100 per annum, with board and residence.

CASUALTY OFFICER. Salary at the rate of £100 per annum, with board and residence.

The above appointments are for a period of six months, commencing December 1st next. Forms of application may be obtained from the Secretary, to whom candidates should send their application, with copies of three recent testimonials, on or before Friday, November 2nd.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.1.

Applications are invited for the post of **FOURTH SURGEON (Male)** to the Hospital. Candidates must be Graduates in Surgery in a recognised University or a Fellow of the Royal College of Surgeons of England, and must not be engaged in General Practice.

The successful candidate will have charge of beds, and will do one Out-patient Clinic per week, and there is an honorarium of fifty guineas attached to the post.

Applications, with copies of not more than four testimonials, should reach the Secretary not later than October 31st.

Candidates will be required to call upon Members of the Medical Staff whose names, together with the Standing Orders relating to the post, will be forwarded by the Secretary.

By Order of the Committee of Management,

W. H. SIDNELL, Secretary-Supt.

October 16th, 1934.

THE PRINCE OF WALES'S HOSPITAL, PLYMOUTH.

Greenbank Road Section.
(Formerly South Devon and East Cornwall Hospital.) (240 Beds.)

RESIDENT SURGICAL OFFICER (Male). Salary £170 per annum, with board, residence, and laundry. Appointment tenable for six months, and subject to renewal. Duties to commence December 1st. Candidates must be registered under the Medical Acts.

Applications, stating age and qualifications, together with copies of recent testimonials, to reach the undersigned by November 3rd.

ARTHUR R. CASIL, Gen. Supt. & Sec.

Oct. 15th, 1934.

ANCOATS HOSPITAL, MANCHESTER.

CASUALTY OFFICER required. Appointment for twelve months. Salary £250 per annum, with luncheon and tea provided. Applicants should have passed their Primary Fellowship Examination. Hours of duty from 9 a.m. to 5 p.m., except Saturdays, Saturdays, 9 a.m. to 1 p.m.

The successful applicant will be expected to do locum for the Resident Surgical Officer at every alternate week-end and at scheduled times as required. He shall reside outside the Hospital, excepting when taking the R.S.O.'s alternate week-ends. Applications, stating age, experience, qualifications, etc., together with copies of three recent testimonials, to be forwarded to the undersigned on or before October 31st next.

By Order of the Board,
HERBERT J. DAFFORNE,
General Supt. & Secretary.

STOCKPORT INFIRMARY. (140 Beds.)

Applications are invited for the post of **HOUSE PHYSICIAN (Male)**. Salary £150 per annum, together with board, residence, and laundry.

The Resident Staff consists of a Resident Surgical Officer, Two House Surgeons, and a House Physician.

Duties should commence November 1st. Applications, with copies of three recent testimonials, stating age, nationality, and qualifications, to be sent to the undersigned immediately.

H. G. PRICE, Secretary-Supt.

(Appointments continued on p. 50)

BRITISH MEDICAL JOURNAL

B.M.A. HOUSE, TAVISTOCK SQUARE,
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By Order of Committee,
RICHARD C. TRESIDDER,
Secretary.

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Particulars and conditions of sale from the Auctioneer's Office, 42, Station Road, Clacton-on-Sea. Tel. 74.

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APPOINTMENTS.—Contd.

HOLLAND (LINGS) COUNTY COUNCIL. ASSISTANT MEDICAL OFFICER OF HEALTH.

Applications are invited from duly qualified and registered Medical Practitioners holding the Diploma in Public Health or an equivalent qualification for the post of Assistant Medical Officer of Health (male). Candidates must not exceed 40 years of age.

The person appointed, who must have had post-graduate experience in the diagnosis and treatment of Tuberculosis, will be required to carry out all the duties assigned to him by the County Medical Officer, under whose direction and supervision he will act. He will be required to devote the whole of his time to the duties of the office and to reside in such part of the County as may be required. He will not be allowed to engage in private practice.

The salary will be £600 per annum, to be increased by increments of £25 per annum to a maximum of £750 per annum, together with travelling expenses according to the Council's scale.

Applications, which must be made on a form obtainable from the undersigned, together with copies of not more than three recent testimonials, must be sent to the County Medical Officer of Health, County Hall, Boston, not later than Friday, November 2nd.

County Hall, W. G. BOOTH,
Boston, County Medical Officer,
October 12th, 1934. of Health.

COUNTY OF DEVON. MEDICAL DEPARTMENT.

ASSISTANT COUNTY MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners for the appointment of Assistant County Medical Officer (age not to exceed 40) under the Devon County Council.

Applicants must have special experience in the ascertainment and certification of Mental Defectives under the Education and Mental Deficiency Acts.

The salary will be at the rate of £600 per annum, rising by annual increments of £25 to £700 per annum, together with an allowance for travelling and subsistence, in accordance with the County Council Scale.

The person appointed will be required to pass a medical examination, and to contribute to the fund established by the County Council under the Local Government and Other Officers Superannuation Act, 1922.

Particulars of duties and application forms may be obtained from the undersigned, to whom applications, accompanied by copies of three recent testimonials, must be forwarded not later than the first post on Tuesday, November 6th.

L. MEREDITH DAVIES,
County Medical Officer,
4, Barnfield Crescent, Exeter.

COUNTY BOROUGH OF SOUTHAMPTON. BOROUGH HOSPITAL, SOUTHAMPTON.

JUNIOR RESIDENT MEDICAL OFFICER.

Applications are invited from registered male Medical Practitioners for the above appointment. Candidates must be unmarried.

Preference will be given to applicants who have held Resident Hospital appointments, and have had experience in the administration of Anaesthetics.

The salary will be at the rate of £200 per annum, together with the usual residential allowances.

The appointment will be made for a period of twelve months, and not renewable.

Form of application and conditions of the appointment may be obtained from the Medical Officer of Health, Civic Centre, Southampton.

Applications on the prescribed form, endorsed "Junior Resident Medical Officer," must be delivered at the Town Clerk's Office, Civic Centre, Southampton, on or before Nov. 14th.

R. RONALD H. MEGGESON,
October 23rd, 1934. Town Clerk.

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SUSSEX.—PARTNERSHIP in old-established Country Practice. Charming freehold house on main road. Receipts average £6,000 p.a. Panel 1,000. Fees 3/6 to 1 guinea. Several appointments. Premium for one-third share 2 years' purchase.

ESSEX COAST.—PARTNERSHIP in old-established middle-class G.P. Receipts for 1934 over £1,500. Panel 900. Three appointments. Unlimited scope for increase. Premium for one-third share £1,000. Suitable for experienced man aged about 30, single, and C. of E.

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LONDON, S.E.—Middle-class G.P. situated in pleasant residential locality. Non-basement terrace house to be rented at £60 p.a. on lease. Panel nearly 350. One appointment. Fees 2/6 up. Premium £800.

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Practices and Partnerships for Disposal (continued).

- 16 NEW ZEALAND.—WELL-ESTABLISHED PRACTICE IN SMALL Seaside Town in South Island. Vendor's Bookings for just under seven months, £700. Small Hospital. House contains 9 rooms, waiting room, etc. Large garden, stable, etc. To rent. Premium £1,400.
- 17 S.W. OF ENGLAND.—GOOD MIDDLE-CLASS NON-DISPENSING PRACTICE in Seaside Resort. Cash receipts average nearly £750 p.a. No panel, but scope in this direction. Visits 3/6 to 14/6. Nice house (7 bed and dressing rooms) with electric light and hot water system for sale. Sport of all kinds. Plenty of good society and educational facilities. Hospital. Premium one and a half years' purchase.
- 18 CAPE PROVINCE. — WELL-ESTABLISHED PRACTICE IN small Town in one of the foremost Farming Districts (altitude over 5,300 ft.). Cash receipts year ending June 30, 1934, £1,100. including appointment worth £200. Visiting fees 7/6 in town by day, £1 1s. by night. Country at the rate of 4/- by day, 6/- by night. House contains spacious lounge, 2 bedrooms, bath-room, surgery, etc. Garden and good garage. Price about £1,475. Reasonable premium.
- 19 LONDON, E.S.—WELL-ESTABLISHED PRACTICE £420 P.A. Panel 150. Visits 3/6, 5/- (night 10/6). Shop-fronted surgery and flat to let. Premium £250.
- 20 BIRMINGHAM.—OLD-ESTABLISHED PRACTICE AVERAGING £650 p.a. in suburban district. Panel about 800. Visits 2/6 to 7/6, medicine not included. Substantially built house (7 bed and dressing rooms) occupying prominent corner position with garage and small garden for sale. Considerable scope as district is growing. Premium £1,300.
- 21 LONDON, W.—PARTNERSHIP IN WELL-ESTABLISHED PRACTICE between £1,100—£1,200 p.a. in residential area easy reach of West End. Incoming Partner should be aged 30-35. Great scope for panel work. One-half share (£500 p.a. guaranteed) would be sold for £1,000.
- 22 SURREY.—INCREASING PRACTICE IN DEVELOPING RESIDENTIAL District. Income about £530 p.a., including small panel returning £80 p.a. Visits 5/- to 7/6. Very good freehold residence for sale. Great scope for increase. Premium £750.
- 23 SURREY. — PARTNERSHIP IN SOUND OLD-ESTABLISHED good mixed-class Practice of £2,737 p.a., within 10 miles of London. Several appointments and Panel 325. Visits 5/- upwards. Few 3/6. Very little midwifery. Good corner house (5 bedrooms) with nice garden for sale. Scope for considerable increase. Premium one-half share 2 years' purchase.
- 24 LONDON, S.E.—WELL-ESTABLISHED PRACTICE IN GROWING residential suburban district. Receipts past twelve months £975. Panel over 560. Visits 4/-, 7/6, and upwards. Excellent detached house (4 bedrooms) with garage and half acre of garden to rent. Scope for increase. Premium £1,700 or near offer.
- 25 S.W. OF ENGLAND.—PRACTICE CARRIED ON BY MEDICAL woman in coast town. Receipts average about £350 p.a. including appointments and small panel. Visiting fees 5/- to 7/-. Suitable house available. Premium £350.
- 26 S.W. OF ENGLAND.—NON-DISPENSING PRACTICE OF £1,965 p.a. in beautifully situated and growing Summer Resort. No panel or appointments. Visits and consultations 7/6, 10/6, and £1 1s. Practically no night work. Modern house (6 bedrooms) pleasantly situated in quiet locality, with one acre garden, for sale. Premium 1½ years' purchase.
- 27 MEDITERRANEAN TOWN.—OLD-ESTABLISHED GOOD-CLASS non-dispensing PRACTICE averaging over £2,000 p.a. Fees chiefly £1 1s. Charming situated Flat for sale. Premium—Practice—one year's purchase.
- 28 LONDON, S.E. — PRACTICE ABOUT £350 P.A. WITHIN 5 miles of Charing Cross. Panel 320. House contains waiting room, surgery, dispensary, 2 bedrooms, etc., rent £63 p.a. Premium £500, or offer.
- 29 LONDON, E.—SMALL PRACTICE IN POPULOUS AREA. CASH receipts past year, £425. Panel 351. Accommodation comprises 4 rooms, kitchen, bathroom, and is rented on lease. Premium 1½ years' purchase.
- 30 BOURNEMOUTH.—DETACHED CORNER RESIDENCE BUILT by Medical Man and from which general practice has been carried on. The accommodation comprises 2 reception rooms, waiting and consulting rooms, 4 bedrooms, etc. Garage and garden. The freehold would be sold for £1,750. Active building is going on in the district, and there is a good opening.
- 31 SURREY AND HAMPSHIRE BORDER.—OLD-ESTABLISHED PRACTICE over £1,200 p.a. in Residential District. Panel 750. Visits 3/6 to 21/-. Good house (about 5 bedrooms), with electric light, gas, and company's water. Garage and very good garden for sale. Excellent golf. Good society. Premium one and a half years' purchase.
- 32 CORNISH COAST.—SMALL PRACTICE IN DELIGHTFUL SEASIDE town worth about £250. No dispensing or panel. House, 3 bedrooms, electric light, gas, and walled-in garden to rent. Premium £250.
- 33 ESSEX. — NUCLEUS OF PRACTICE WORTH ABOUT £175 p.a., capable of good increase, in populous district. Panel 257. House (4 bedrooms) in main thoroughfare, with garden, for sale or rent. District rapidly growing. Premium £200, to include drugs and part of Surgery furniture.
- 34 HOME COUNTY. — PARTNERSHIP IN SOUND OLD-ESTABLISHED, about £6,500 p.a. in beautifully situated first-rate Country Town. House available which might be obtained on lease. Considerable scope for increase. Incoming Partner should be aged about 30, preferably married, and a physician with some knowledge of Pathology. Commencing share of (approximately) £1,170 p.a. would be sold at two years' purchase.
- 35 HERTS. — SMALL PRACTICE IN GROWING COUNTRY District. Income little over £200 p.a. with small panel. Nice freehold corner house (4 bedrooms), garden back and front, for sale. Very good prospects for energetic man. Premium £330.
- 36 NORTHANTS.—PARTNERSHIP IN WELL-ESTABLISHED PRACTICE of about £1,400 p.a. in a rapidly growing residential district. Panel over 1,600. Excellent chance for young energetic man. Premium one-third share, £800.
- 37 NUCLEUS OF PRACTICE IN A PLEASANT EASTERN suburb. No midwifery. Modern house (5 bedrooms) in good residential part. With electric light and heating and nice garden for sale or rent. Scope for increase.
- 38 LONDON, S.W.—WELL-ESTABLISHED OPHTHALMIC PRACTICE averaging £900 p.a. in Suburban District. Fee for consultation and examination £1 1s. Well-situated house to be sold or let. Premium £1,200.
- 39 SUFFOLK AND NORFOLK BORDERS.—PRACTICE NEARLY £350 in Market Town. Panel 106. Nice house (6 bedrooms), garage, and good-sized garden. Price of freehold £850. Excellent schools. Plenty of sport. Cottage Hospital. Premium £450.
- 40 FLOURISHING CITY WITHIN 80 MILES OF LONDON.—WELL-established and increasing PRACTICE averaging £2,878 p.a. Panel 2,200. Visits 5/- to £1 1s. (average 7/6). Detached house (5 bedrooms) in one of the nicest parts with excellent surgery accommodation for sale or rent. Good hospital and opportunities for surgery. Great scope for increase. Premium £5,756.

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All communications to be addressed to Mr. A. V. STOREY, General Manager.

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YORKSHIRE.—Established mixed-class PRACTICE. Cash receipts over £1,700. Panel over 1,000. Excellent house, 2 reception, 4 bedrooms, garage, and large garden. Premium 1½ years' purchase.—No. 615.

MEDICAL WOMAN'S PRACTICE in Large Seaport Town on the East Coast. Cash receipts last year £500. Panel 100. Scope. Good house, 2 reception, 3 bedrooms, professional rooms, and small garden. Premium—Practice—£600.—No. 563.

NORTH-WEST COAST.—RADIOLOGICAL PRACTICE. Cash receipts last year £809, including approx. £350 from appointments. Purchaser can choose own residence. Premium £1,275; part by instalments.—No. 588.

MANCHESTER.—PARTNERSHIP in old-established middle and better working-class Practice in pleasant suburb. Average cash receipts over £2,500 p.a. Panel 2,000. Good house, 2 reception, 4 bedrooms, garage, and garden. Rent £60 p.a. English or Scotch graduate preferred. Premium—one-third share—2 years' purchase.—No. 616.

NEWCASTLE-ON-TYNE.—PARTNERSHIP in old-established panel and private Practice. Cash receipts over £2,000 p.a. Panel over 2,000. Scope for increase. Incoming Partner may choose own residence. Premium—half share—2 years' purchase.—No. 602.

MANCHESTER.—Old-established mixed-class PRACTICE, averaging over £837 p.a. Panel over 1,000. Scope. Excellent house, containing good living and professional accommodation, for sale or may be rented. Prem. 1½ years' purchase.—No. 589.

MIDLANDS.—Small PRACTICE in prosperous town. Cash receipts last year £616. Panel about 700. Good detached house, 2 reception, 7 bedrooms. Garage and garden. Prem., best offer.—No. 611.

CUMBERLAND.—Old-established unopposed mixed PRACTICE in country district. Cash receipts over £400 p.a. Panel 300. Great scope for energetic man. Good house, 2 reception, 5 bedrooms; garage and garden. Rent £50 p.a. Vendor retiring. Premium, best offer.—No. 592.

MANCHESTER.—NUCLEUS near Housing Estate. Cash receipts last year £250. Panel 200. Good scope. Small house to rent at £52 p.a. (clear). Premium, best offer.—No. 576.

LANCS TOWN, nr. Manchester.—Excellent mixed-class PRACTICE. Cash receipts last year approx. £1,840. Panel 1,600. Scope. Good house, 2 reception, 4 bedrooms; garage and small garden. Premium 1½ years' purchase.—No. 574.

CO. DURHAM.—Old-established unopposed country PRACTICE. Cash receipts last year £877. Panel 573. Good house (with modern conveniences), 2 reception, 4 bedrooms; garage and large garden. Net rent £20 p.a. Vendor retiring. Premium 1½ years' purchase.—No. 593.

YORKSHIRE (N.R.).—PARTNERSHIP in Panel and Club Practice in large town. Income, including £845 p.a. from appointments, £2,100 p.a. Panel 2,500. Scope for private practice. Pur-

chaser can choose own residence. Premium—one-third share—best offer.—No. 612.

CO. DURHAM.—Old-established mixed PRACTICE. Average cash receipts £1,264 p.a. Panel 767. Excellent house in prominent position, 2 reception, 5 bedrooms, garage. Premium—Practice—1½ years' purchase.—No. 581.

DEATH VACANCY.—LANCS TOWN, near North-West Coast. Better working-class PRACTICE. Cash receipts last year £507. Scope for great increase. Excellent detached house, 2 reception, 4 bedrooms, garage, etc., to rent on lease. Premium, best offer.—No. 613.

CONSULTING OPHTHALMIC PRACTICE in large City near North Wales Coast. Cash receipts last year £630. Appointment £50 p.a. Premium £500.—No. 607.

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IN TOWN AND COUNTRY WITH
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NORTHERN CITY. — VENEREA DISEASES PRACTICE. Cash receipts last year £1,747. Fees 10/- to £3 3s. House to rent at £65 p.a. Premium 1½ years' purchase.—No. 594.

SOUTH YORKSHIRE.—Old-established mixed-class PRACTICE in prett. Country District. Average cash receipts £1,000 p.a. Panel 850. Scope. Good modern house, 2 reception, 4 bedrooms; garage and garden to rent on lease. Premium 1½ years' purchase.—No. 590.

DEATH VACANCY. — Yorksh. (W.R.).—Old-established mixed panel and private PRACTICE. Cash receipts last year over £1,000 including £426 from panel. Freehold house, with garage, and valuable book debts—£2,000.—No. 610.

MANCHESTER.—Old-established working-class PRACTICE. Cash receipts approx. £800 p.a. Panel and appointments £500 p.a. Scope. Good house, 2 reception, 3 bedrooms; garage. Rent £2 p.a. on lease. Good introduction. Vendor retiring. Prem. best offer.—No. 546.

LIVERPOOL.—Old-established PRACTICE. Cash receipts £2 p.a. Panel 400. Scope. Good house, 2 reception, 5 bedrooms. Small garden. Rent £60 p.a. Premium £650.—No. 599.

LEICESTERSHIRE.—PARTNERSHIP, with view to succession, in old-established unopposed Country Practice. Cash receipts last year £828. Panel 800. Scope. All kinds of sport. Premium half share—1½ years' purchase.—No. 596.

MEDICAL WOMAN'S NUCLEUS in Cheshire town, near Liverpool offering considerable scope for expansion. Good modern house, 2 reception, 4 bedrooms, garage, and garden, to rent on lease or would sell for reasonable offer.—No. 515.

WANTED.—ASSISTANTS (with and without view to Partnership) and **LOCUMTENENTS** (male and female). **ENGAGEMENTS.** Particulars on application. V.C.1

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCH

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Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges. Charge is made to Principals for the introduction of Locum Tenens or Assistants.

ALIVIERA.—Old-established middle and working-class practice averaging for the past 3 years £1,356 p.a. Panel producing £35 p.a. and appointments bring in £35 p.a. Visits 5/- to 10/- with medicine extra. Very moderate expenses. Centrally situated with large and well-stocked garden, containing 2 bedrooms, etc., and professional rooms. Price £1,250, 00 on mortgage. Sport of all kinds. Premium 1½ years' purchase.

ARREY.—RESIDENTIAL DISTRICT WITHIN EASY REACH OF LONDON.—Well-established PRACTICE producing £1,300 p.a., including panel of 600. Good scope for increase as neighbourhood is developing. Very nice house with good garden and ample accommodation. Price for freehold £2,200. Premium 1½ years' purchase.

LONDON, S.E.—WITHIN 10 MILES OF CHARING CROSS.—Well-established PRACTICE producing over £2,000 p.a. with substantial panel. Visits from 3/6. No midwifery taken. Suitable house, with reception, 5 bedrooms, dressing room, etc. Separate entrance to professional rooms. Electric light. Garage. Large garden. Can be let on lease at £52 p.a.

ST END ELECTRO-MEDICAL PRACTICE.—Old-established and highly producing from £700 to £800 p.a. Present receipts about £10 p.a. Premium (to include apparatus and consulting room rent for 2 years) £500.

LYING NORTHERN SUBURB.—A four-sevenths share is offered in very old-established good mixed-class Practice averaging for the past 3 years over £6,000 p.a. Advice and medicine 2/6 to 5/-, visits 5/- to 10/6. Midwifery from 5 gns. Ingenuo partner must be experienced, aged 35 to 40, and capable of undertaking major surgery. Suitable house with ample accommodation. Electric light, garage, etc. Can be rented at £90 p.a. Premium for share 2 years' purchase.

MIDDLESEX.—OUTLYING RESIDENTIAL SUBURB.—Very old-established sound middle and working-class Practice having good scope for increase as district is extending. Gross cash receipts approximately £5,200. Panel of about 1,600. Visits 3/6 upwards. Good house, with ample accommodation on rental. Very suitable for friends or for working with an Assistant.

SOME COUNTIES.—PARTNERSHIP.—A one-half share is offered in a very old-established good mixed-class Practice, producing for the last 12 months approximately £4,000. Panel of 1,950. Appointments worth over £200 p.a. Visits 3/6 to 1½ gns. Very nice house containing 3 reception, 7 bedrooms, etc., consulting room, surgery, dispensary. Separate entrance. Large garden, with tennis lawn. Electric light. Garage. Can be rented on lease. Sport of all kinds, very good schools. Premium for share £4,050. Ingenuo partner to be over 35 years of age, married, and preferably English.

LYING EASTERN SUBURB.—Old-established good middle and working-class PRACTICE producing between £1,500 and £1,600 p.a. Panel of 1,400. Suitable accommodation can be rented. Premium 2 years' purchase.

GREY.—RIVERSIDE SUBURB.—Old-established better and middle-class PRACTICE, held by Vendor, who is retiring, for over 30 years. Gross cash receipts approximately £1,125, including panel of 420, appointments worth about £80 p.a. Fees from 2/6. Suitable house, with 2 reception, 5 bedrooms, etc. Electric light. Garage, etc. Premium £2,000.

LONDON, EAST.—Very old-established middle and working-class PRACTICE, producing for last 12 months over £900 p.a. Panel of 5. Very low expenses. Visits 3/6 upwards. Suitable house can be let at £100 p.a., part sublet. Premium £1,600.

LONDON, NORTH.—Chiefly better-class PRACTICE producing nearly £1,000 p.a., but offering good scope. Panel of 60. Fees from 5/- to 10/- house, with 2 reception, 5 bedrooms, etc. Can be rented 5 p.a. Premium £150.

LANCS.—PROSPEROUS RESIDENTIAL TOWN.—Very old-established middle and better-class PRACTICE, averaging approximately £1,000 p.a., including £1,000 from panel. Fees 2/6 to 10/6. Scope for increase as the town is extending and many new houses are being built. Very nice house, with 2 reception, 5 bedrooms, etc. Separate accommodation. Electric light. Garage. Price for freehold £1,000. Premium 2 years' purchase.

SOUTH COAST TOWN.—PARTNERSHIP.—A one-third share (with the later) is offered in a rapidly increasing Practice producing £1,500 p.a., with ample scope for development. Panel of appointments worth about £70 p.a. Visits 5/- upwards. Suitable house can be obtained. Premium for share 2 years' purchase.

LANCS.—LARGE TOWN.—OPHTHALMIC AND X-RAY PRACTICE.—Good scope for general work if desired. Held by Vendor (who is retiring) for past 30 years. Gross cash receipts for last 12 months £800. Hospital appointment worth £150 p.a., plus extras. Suitable house can be obtained. Premium £1,275.

LONDON, W.—Better middle and working-class PRACTICE, offering good scope for increase. Gross cash receipts approximately £750 p.a. Visits 5/- to 21/-, Suitable flat can be rented. Premium £800.

LEICESTER.—RESIDENTIAL COUNTRY DISTRICT.—Within 120 miles of London. A one-fourth share, with increase later is offered in a rapidly increasing partnership in a rapidly increasing better-class Practice producing about £3,600 p.a. Ingenuo partner must be aged between 28 and 40, and preferably University educated, with sporting and social facilities. Premium for share 2 years' purchase.

17. HANTS.—Attractive residential district, within easy reach of London. Well-established PRACTICE producing nearly £500 p.a., including panel of 114. Visits 5/- to 7/6. The neighbourhood is rapidly developing. Large house, with 5 bedrooms, etc., nice garden, with tennis court. Price for freehold £2,000. Premium £600.

18. SOUTH COAST.—Village PRACTICE, producing about £300 p.a., including panel of over 100. Patients are chiefly middle class. Fees 3/6 to 7/6. Very nice house in half an acre of ground, 2 reception, 4 bedrooms, etc. Price for freehold £1,750. Premium 1½ years' purchase.

19. LONDON, SOUTH-EAST.—Old-established middle-class PRACTICE, producing £600 for last 12 months, but offering scope. Selected panel of 150. House contains 2 reception, 4 bedrooms. Electric light. Garage. Garden. Price £1,000, or might be rented. Premium £800.

20. PARTNERSHIP.—OUTLYING RESIDENTIAL SUBURB.—A one-third share, with increase later, is offered in a very well-established good mixed-class Practice, producing for the last 12 months £3,250. Situated in developing district, with good prospects of increase. Panel of about 1,600. Suitable house, with 2 reception, 4 bedrooms, etc. Price for freehold £1,250, £250 down. Premium for share £2,600.

21. NORTHWEST LONDON.—Old-established middle and working-class PRACTICE, held by Vendor 7 years. Average gross cash receipts £650. Panel of 400. Low expenses. Suitable house, with 4 bedrooms, etc. Garden and garage, can be bought for £1,500. Premium 1½ years' purchase.

22. LONDON, NORTH-WEST.—Old-established PRACTICE, averaging for the past three years over £800, including panel of 854. Scope for increase. House, with 2 reception, 4 bedrooms, etc. Garden. Price £1,200. Premium £1,000.

23. LONDON, S.E.—PARTNERSHIP.—A one-third share (producing approximately £500 p.a.) is offered in an old-established good working-class Practice, mostly derived from panel. Scope for young energetic worker. Suitable house can be rented and expenses are very low. Premium £1,000.

24. LANCS.—LARGE TOWN.—RESIDENTIAL SUBURB.—Old-established good middle and better working-class PRACTICE held by Vendor for nearly ten years. Average gross cash receipts for last three years £1,320 (last year £1,577). Panel of about 850. Transferable appointments worth £160. Fees 3/6 to 7/6. Very attractive house, with all modern conveniences containing 2 reception, 4 bedrooms, etc. Good professional accommodation. Garage and nice garden. Price for freehold £1,600, part on mortgage. Good golf within easy reach. Excellent schools. Premium 1½ years' purchase.

25. LONDON, S.E.—Recently established middle and working-class PRACTICE, producing for last 12 months £450 p.a. Panel of 236. Appointment worth £30 p.a. Fees from 2/6. Suitable house which can be rented at £70 p.a., part sublet. Premium £650.

26. LANCS.—LARGE TOWN.—Old-established good-middle and working-class PRACTICE offering large scope for increase. Gross cash receipts for past 12 months £1,040. Panel of 240. Fees from 4/- to 10/- house, with 3 reception, 6 bedrooms, etc., good professional accommodation. Garage. Garden. Rent on lease £100 p.a. Premium £1,800, or near offer.

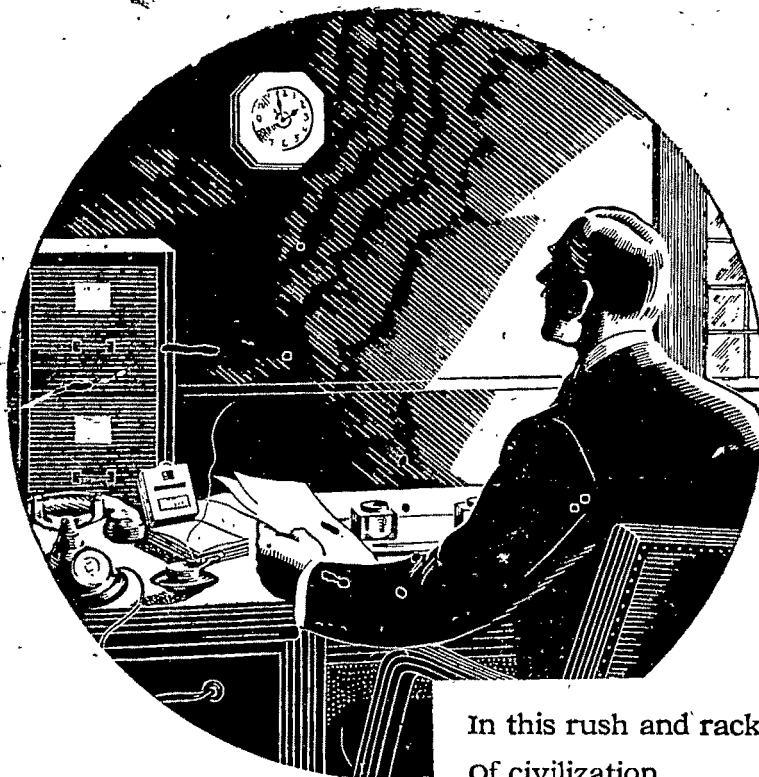
27. NEW ZEALAND.—NORTH ISLAND.—Well-established general Practice situated in a thickly populated and prosperous dairy farming district bringing in over £2,200 p.a. Minimum fee 10/6, plus mileage charged at the rate of 5/- a mile after 2 miles one way. Average midwifery fee 6 gns. There is a private hospital with 9 beds. Purchaser must be able to do major surgery as surgery forms a considerable part of the work. Fees charged at the rate of usual B.M.A. standard. Very good bungalow house with beautiful garden of about an acre, containing dining and drawing rooms, 2 bedrooms, sleeping porch, bathroom, etc., kitchen, scullery. Premium £2,000, to include both practice and house, drugs, fittings, etc., and diathermy apparatus.

28. NORTH-EAST COAST.—FAVOURITE SEASIDE RESORT.—Well-established mixed-class PRACTICE producing approximately £1,600 p.a. Panel brings in with mileage about £300 p.a., and appointment worth £100 p.a. Fees 3/6 to 7/6. Good house with 5 bedrooms, etc. Garden and garage. Price for freehold £2,250. Sport of all kinds. Good schools. Premium 1½ years' purchase.

29. EAST LONDON.—Recently established working-class PRACTICE estimated to be bringing in approximately £380 p.a. Panel of 130. Suitable shop-fronted premises can be rented at reasonable figure and expenses very low. Premium £350.

ASSISTANTSHIPS VACANT.—(1) SOUTH-WEST COAST TOWN. Indoor £500 p.a. Prospect of Partnership later. Irish Roman Catholic preferred. (2) LEICESTER. Indoor. £300, with view to Partnership. English or Scottish. (3) CAMBRIDGE. Outdoor. £450 p.a. Must be London Hospital trained, and used to good-class work. (4) NOTTINGHAM. Outdoor. £325, with board, rooms, and attendance. (5) LEICESTER. Outdoor. To manage Branch. Terms to be arranged. (6) ESSEX. Outdoor. Required to develop new District. Suitable house available. Salary to be arranged. Must be married.

The Agency has made arrangements for special facilities, on very favourable terms, to be afforded to approved Principals for the advance of part of the premium for any suitable practice or partnership. Full details on application.



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When everything
Must go
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Than a week
The dose
Of one tablespoonful
Or less,
Can be reduced
To even less.
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Is the improvement
Evident.

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